FACULTY OF MEDICINE – SKOPJE

STUDIES OF GENERAL MEDICINE IN ENGLISH LANGUAGE

CURRICULUM OF THE STUDIES IN GENERAL MEDICINE

	I semester			II semester			
Subjects	Lessons	Credits	Validity exam sessions	Subjects	Lessons	Credits	Validity exam sessions
Biophysics	60	3	6	Medical chemistry	90	7	3
Cell morphology and physiology	60	5	3	Anatomy 2	90	7	3
Anatomy 1	90	9	3	Histology and embryology 2	75	6	6
Introduction to medicine	30	2	6	Health promotion	15	1	6
Medical psychology and sociology	75	5	6	Medical ethics	30	2	6
Histology and embryology 1	60	5	3	Introduction to human genetics	60	5	6
Sports and health	30	1		First aid	15	1	6
				Elective subject	15	1	
	405	30			390	30	

I YEAR

Π	YE	AR
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П	III semester			IV semester			
Subjects	Lessons	Credits	Validity exam sessions	Subject	Lessons	Credits	Validity exam sessions
Biochemistry 1	105	7	3	Physiology 2	90	6	3
Physiology 1	150	11	3	Biochemistry 2	75	5,5	3
Introduction to immunology	45	3	6	Microbiology with parasitology 1	60	4	3
Biostatistics with medical informatics	45	3	6	Pathological physiology 1	105	7	3
Anatomy 3	90	6	3	Hygiene	75	5	6
				Basics in scientific work	30	1,5	6
				Elective subject	15	1	
	435	30			450	30	

	V semester			VI semester			
Subjects	Lessons	Credits	Validity exam sessions	Subjects	Lessons	Credits	Validity exam sessions
Microbiology with parasitology 2	75	6	3	Pathology 2	120	8	3
Pathological physiology 2	60	4,5	3	Clinical examination	92	7	3
Pathology 1	135	9	3	Pharmacology	105	7	3
Clinical examination	93	6	6	Epidemiology	75	5	6
Radiology	60	3	6	Transfusiology	30	2	6
Nuclear medicine	30	1,5	6	Elective subject	15	1	
	453	30			437	30	

IV	YEAR
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, v	VII semester			VIII semester			
Subjects	Lessons	Credits	Validity exam sessions	Subjects	Lessons	Credits	Validity exam sessions
Internal medicine	205	11	6	Internal medicine	150	9,5	6
Infectiology	105	7	6	Surgery	160	9,5	6
Dermatovenerology	80	5	6	Gynecology	100	6	6
Neurology	97	6	6	Clinical pharmacology	30	1,5	3
Elective subject	15	1		Clinical biochemistry	30	1,5	3
				Oncology	45	2	6
	502	30			515	30	

V	YEAR
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	IX semester			X semester			
Subjects	Lessons	Credits	Validity exam sessions	Subjects	Lessons	Credits	Validity exam sessions
Surgery	175	10.5	6	Pediatrics	90	5	6
Gynecology and obstetrics	105	6	6	Psychiatry	95	5.5	6
Pediatrics	90	6	6	Otorhinolaryngology	97	6	6
Orthopedics	55	3	6	Ophthalmology	67	4	6
Anesthesiology and reanimation and pain management	40	2	6	Family medicine	30	1.5	6
Emergency medicine	30	1.5	6	Forensic medicine	75	4	6
Physical medicine and rehabilitation	15	1	6	Occupational medicine	45	2	6
				Social medicine and health economics	30	2	6
	510		30		529		30

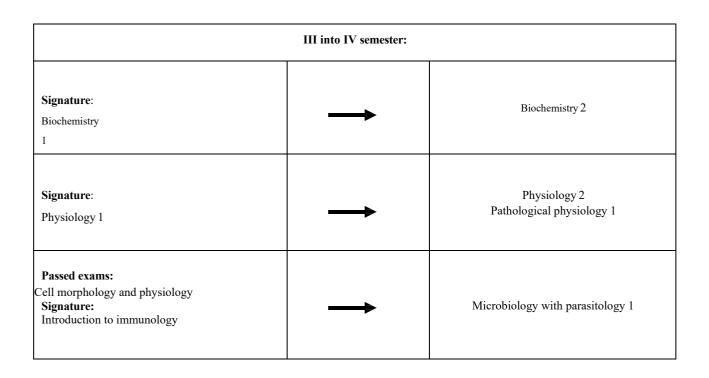
XI semester		XII semester		
Subjects	Durantion/organization	Lessons	Credits	
Internal medicine clinical practice	8 weeks	320	15	
Surgery clinical practice	8 weeks	320	15	
Gynecology and obstetrics clinical practice	4 weeks	160	7	
Pediatrics clinical practice	3 weeks	120	6	
Public health clinical practice	2 weeks	80	4	
Family medicine clinical practice	1 week	40	2	
Gerontology	1 week	40	2	
Palliative medicine	1 week	40	2	
Seminars* (3 subjects)	l week Differential diagnosis (solving cases internal+surgery+pediatrics)	60	3	
Clinical microbiology	2 days	15	1	
Rational drug prescription and natural ways of healing	1 week	40	2	
Elective subject		15	1	
		1250	60	

*Seminars are conducted on the mentoring principle with professors and assistants. They are organized as active participation of students in the working process, participation of seminars and/or workshops, public presentations of case reports.

CONDITIONS FOR ADVANCEMENT

I into II semester:				
Signature: Anatomy 1		Anatomy 2		
Signature: Histology with Embryology 1		Histology with Embryology 2		
Signature: Cell morphology and physiology		Introduction to human genetics		
Signature: Introduction to medicine	\rightarrow	Health promotion		

II into III semester:				
Passed exams: Anatomy 1 Anatomy 2 Histology with Embryology 1		Anatomy 3 Physiology 1		
Passed exams: Medical Chemistry	\rightarrow	Biochemistry 1		
Passed exams: Cell morphology and physiology		Physiology 1 Introduction to immunology		
Signature: Introduction to human genetics		Introduction to immunology		



I	IV into V semester:	
Passed exams: Physiology 1 Signature: * Pathological physiology 1	\rightarrow	Pathological physiology 2
Passed exams: Physiology 1 Signature: Physiology 2 Pathological physiology 1 Microbiology with parasitology 1		Microbiology with parasitology 2
Passed exams: Physiology 1 Anatomy 3 Histology and embryology 2 Signature: Physiology 2 Pathological physiology 1		Pathology 1
Passed exams: Physiology 1 and Anatomy 3 Signature: Microbiology with parasitology 1 * Pathological physiology 1		Clinical examination 1
Passed exams: Biophysics		Radiology Nuclear medicine

* The student does not have the right to take the Pathological physiology 2 and Clinical examination exams before passing the exam of Pathological physiology 1.

V into VI s	V into VI semester:				
Passed exams:Biochemistry 1Physiology 2Signature:Pathology 1Pathological physiology 2	Clinical examination 2				
Clinical examination 1Passed exams:Biochemistry 1Physiology 2Signature:Pathology 1Pathological physiology 2	Pathology 2 Pharmacology Transfusiology				
Passed exams: Medical statistics with informatics	Epidemiology				

VI into VII semester:					
Passed exams: Introduction to medicine					
Medical psychology and sociology					
Health promotion					
Medical ethics					
First aid					
Basics in scientific work					
Introduction to human genetics					
Biochemistry 2					
Microbiology with parasitology 2					
Pathophysiology 2	FOR ANY SUBJECT				
Pathology 1	FOR ANY SUBJECT				
Pathology 2					
Clinical examination					
Introduction to					
immunology					
Hygiene					
Radiology					
Signature:					
*Pharmacology					
Epidemiology					
Transfusiology					
Nuclear medicine					

* The student cannot take the Clinical Pharmacology exam before passing the Pharmacology ex

MANDATORY SUBJECTS

Numł					
	achment 3	Integrated cycle of studies – Subject program			
1.	Subject	ANATOMY 1			
2.	Code	MED 111			
3.	Study program	General Medicine			
4.	Institution (unit, institute,	Ss Cyril and Methodius Un		/ of	
	chair, department)	Medicine, Department of A	natomy		
5.	Degree of education (first,	Integrated 6-year studies			
	second, third cycle)				
6.	Academic year/semester	Year	First (I) Semester	First (I)	
7.	ECTS credits	9			
8.	Professor (when more	Prof. Biljana Zafirova, PhD			
	professors, responsible	*Lectures held by the profe	ssors from the Departmen	t of	
~	professor is assigned)	Anatomy			
9.	Language of the study	English			
	Preconditions for attending	Preconditions for attending			
10.	the classes and taking the	In order to take the final			
	subject's exam	minimum points from the th			
11.	Subject program goals		atomy as a natural, m		
	(competences) and study		e among the medical disc		
	results:		teology and syndesmole	ogy of the	
		extremities, torso and head;			
		• Introduction to the myology, angiology and neurology of			
		extremities.			
		• Detail knowing of topographical anatomy of upper and			
	~	lower extremities.			
12.	Subject content in details by	The theoretical part of the			
	chapters and units, with study	concept of the curriculum.	The practical part corresp	onds with the	
	results for every chapter	theoretical course.			
		Theoretical course:			
		Introduction to Anato	my		
		• Upper limb	1 1 1	1	
			a, scapula, humerus, radi	us, ulna, ossa	
		manus)			
		• • • •	humeri, cubiti, radiocarpe	· · · · · · · · · · · · · · · · · · ·	
			muscles, muscles of the	I I 7	
			arm, muscles of the hand)		
			, a.brachialis, a.ulnaris, a.ı		
		· · ·	lis, arcus palmaris profun	dus)	
		 Veins (deep veins, 			
		 Lymphatic system 	of the upper limb		

	 Nerves (plexus brachialis)
	Lower limb
	 Osteology (os coxae, femur, patela, tibia, fibula, ossa pedis)
	 Syndesmology (art.coxae, genu, tibiofibularis, talocruralis, artt.pedis)
	 Myology (thigh muscles, lower limb muscles, foot muscles)
	 Arteries (a. iliaca interna, a. femoralis, a. poplitea, a. tibialis anterior, a. dorsalis pedis, a. tibialis posterior, a. plantaris lateralis et medialis)
	 Veins (deep veins, superficial veins)
	 Lymphatic system of the lower limb
	 Nerves (plexus lumbalis, plexus sacralis)
	Bones of the head
	 Bones of the skull (os frontale, os ethmoidale, os sphenoidale, os occipitale, os temporale, os parietale) Facial bones (maxilla, os palatinum, mandibula, os
	zygomaticum, os nasale, os lacrimale, concha nasalis inferior, vomer, os hyoideum)
	 Skull base, cranial fossa, craniofacial cavity
	 Syndesmology (art.temporomandibularis)
	• Spine
	 Vertebrae, os sacrum, os coccygis
	 Syndesmology (juncturae columnae vertebrales, art.sacroiliaca, symphisis pubica, art. atlantoocipitalis, art. atlantoaxialis, syndesmosis occipitoaxialis)
	• Pelvis bones
	 Pelvis major, pelvis minor
	Chest bones
	 Sternum, costae, cartilago costalis
	 Syndesmology (art. sternoclaviculares, sternocostales, synchondroses sternales and art.costovertebrales – art.capitis costae, art.costotransversaria).
	Practical course:
	 Practical exercises on specific bones of the extremities, the torso and the head.
	 Skeleton of the thorax, spine, pelvis and head.
	 Syndesmology of upper and lower extremities, the spine,
	torso and head.
	 Topographical anatomy of upper and lower extremities. Regions of the arm and leg and their contents.
13. Interconnection between	Related to all subjects in the study program.
subjects	Signature provides attendance for subject Anatomy 2
~	Passed exam is pecondition for exams: Anatomy 2, Anatomy 3,
	Physiology 1.

14.	Descript	ion of the subject's	Interactive teaching during lectures and practical trainings,			
	-	d working methods in	seminars.			
15.	Total ava	ailable time frame	270 classes			
16.	Forms of teaching activities		16.1. 16.2.	Lessons – theoretical lessons, hours	45	
				Practical lessons (laboratory, auditory), seminars, team work: hours	45	
			16.3.	Practice: hours		
	Other for	rms of activities	17.1.	Project tasks: hours		
17.			17.2.	Individual tasks: hours		
			17.3.	Studying at home: hours	180	
18.		ments for signature	points in be seminar pap	icipation (points) course		
19.		of assessment	•			
	19.1.	Tests: points	 Osteolo of the u Osteolo of the la Osteolo torso at points *Each con written par points. The points tha Osteology The studer points for 	assessment – 3pointsogy, syndesmology, myology, angiologopper extremityogy, syndesmology, myology, angiologower extremityogy and syndesmology of the axial skelod spine)tinual assessment contains written andt is scored from 6-10 points and the ordere oral part contains 5 questions (each sett examine the student's integrative knowand syndesmology are questioned on menttis obligated to achieve a minimumeach part of the assessment to partOtherwise the final exam is considered	15-25 points y and neurology 15-25 points eton (head, 15-25 d oral part. The al part from 9-15 cored from 1.5-3 wledge. nodels. of the intended ss the continual d failed.	
	19.2.Seminar paper/project, written and oral presentation: points				min-max 1 - 2	
19.3.Final exam: pointsPractical examination		nin max. 9 -15 points				

				If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam with previous agreement with Department of Anatomy				
20.	Grading	criteria		Up to 59 points		5 (five) (F)		
	(points/g	grade)		From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		7 (seven) (D)		
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
1				From 93 to 100 points		10 (ten) (A)		
21.		s of monito			tion for the subject, teacher	s and		
quality of the teaching process associates participating Literature Literature				associates participating in t	the teaching.			
	Literatu	-						
Mandatory literature								
		Number	Author	Title	Publisher	Year		
		1.	Drake RL,	Gray`s Anatomy for	New York: Elsevier	2019		
	22.1.		Vogl AW, Mitchell AWM	Students				
22.		2.	Halliday NL,Chung, HM.	Gross Anatomy	Pensilvania: Lippincott Williams & Wilkins	2023		
		Addition	al literature					
		Number	Author	Title	Publisher	Year		
	22.2.	1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013		
		2.	Paulsen F, Jens W.	Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019		

Numł	Number:2					
Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	CELL MORPHOLOGY AND PHY	SIOLO	GY		
2.	Code	MED 112				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss Cyril and Methodius University in S	skopje, F	aculty of Medic	ine, Department	
	institute, chair,	of Physiology, Department of Histolog	gy and E	mbryology		
	department)					
5.	Degree of	Integrated 6-year studies				
	education (first,					
	second, third cycle)					
6.	Academic	Year	First	Semester	First (I)	
	year/semester		(I)			
7	ECTS credits	5				

8.	Duofoscou (when	Drof Dati Daianava MD DhD ragnomihla professor				
ð.	Professor (when	Prof. Beti Dejanova, MD, PhD - responsible professor				
	more professors,	*Lectures held by all professors from the Department of Physiology,				
	responsible	Department of Histology and Embryology				
	professor is					
	assigned)					
9.	Language of the	English				
	study					
	Preconditions for	Preconditions for attending the classes: None				
10.	attending the	In order to take the final exam, the student has to obtain minimum points for				
10.	classes and taking	each course attendance				
	the subject's exam					
11.	Subject program	• To understand the cell structural components within morphological				
	goals	characteristics and physiological functions				
	(competences) and	• To define transport mechanisms within the cell and interaction with				
	study results:	its surrounding.				
	•	• To understand the morphological and physiological changes during				
		the cell division: mitosis and meiosis.				
		To learn about cell production processes and cell information				
		processes				
		• To clarify the specialized cell systems: nervous and muscle cells				
12.	Subject content in	Theoretical course:				
	details by chapters	Basic structure and function of prokaryotic and eukaryotic cells				
	and units, with	 Morphological and physiological characteristics of the cell 				
	study results for	components. Changes in cell division: mitosis and meiosis.				
	every chapter	 Morphological specificities in different cell types 				
	every chapter	 Cell function, transport mechanisms, cell communication with 				
		surrounding and with other cells				
		 Physiological function of the cell organelles and nucleus role in 				
		transcription and replication; Cell production processes and				
		translation				
		 Cell information processes and specialized cell systems: nervous and muscle cells 				
		muscle cens				
		Practical lessons:				
		 Basic structure and function of prokaryotic cells Eulerratic cells: arganelles and nucleus membels are 				
		• Eukaryotic cells: organelles and nucleus morphology				
		• Morphological characteristics of the cell in mitosis, meiosis and				
		apoptosis				
		Morphological specificities of different cell types				
		• Transport through the cell membrane				
		• Functions of the cell organelles and nucleus				
		Intercellular communication and interaction				
		Specialized tissues: muscle and nerve cells				
13.	Interconnection	Related to all subjects in the study program.				
	between subjects	Signature provides attendance for Introduction to human genetics.				
		Passed subject provides attendance to following exams: Physiology 1,				
		Introduction to immunology, Microbiology and parasitology 1.				
14.	Description of the	Interactive lectures of theoretical and practical teaching, introducing				
	subject's study and	computer learning by virtual models and videos.				
		u computer rearining by virtual models and videos.				

	working n in details	nethods				
15.	Total avai time fram		150 hours			
16.	16. Forms of teaching activities		16.1.	Lessons – theoretical less hours	ons,	34
			16.2.	Practical lessons (laborate auditory), seminars, team hours	•	26
			16.3.	Practice: hours		
	Other for	ns of	17.1.	Project tasks: hours		
17.	activities		17.2.	Individual tasks: hours		
			17.3.	Studying at home: hours		90
18	Requirem signature		Active participation (point Theoretical course Practical course	ninimum points for each co s) mir	urse attendanc n – max 1-3 4–7	e
	Methods of				1	
	19.1.		Fests: points		Cell Morphology	min - max : 25 - 40
	19.2.	19.2. Seminar paper/project, written and oral presentation: points				
19.3. Final exam: points			Cell Physiology:	min - max 30 - 50		
20.	Grading c	riteria (p		5 (five) (F)		
		u u		Up to 59 points From 60 to 68 points		6 (six) (E)
				From 69 to 76 points	7 (seven) (D)
						(eight) (C)
				From 85 to 92 points		(nine)(B)
21.			ring the quality of the	From 93 to 100 points Checking the student's at	tendance and s	
	teaching p			anonymous evaluation of	the teaching	process
			itory literature			
			Author	Title	Publisher	Year
		1.	Guyton AC, Hall JE.	Textbook of Medical Physiology 14 th edition	London: Elsevier	2020
22.	22.1.	2.	Milenkova L, Kostova N	Structural characteristics of eukaryotic cells	Skopje: UKIM, Faculty of Medicine	2011
		3.	Cooper GM. Hausman RE.	The Cell: A Molecular Approach	Boston: Sinauer Associates	2016

	Additional literature						
	Number	Author	Title	Publisher	year		
	1.	Widmaier E, Raff H,	Vander's Human	New York:	2013		
		Stran K.	Physiology: The	McGraw-			
			Mechanisma of Body	Hill			
22.2.			Function	Education			
	2.	www.histologyguide.com	on-line learning				
			programme				
	3.	Ros MH, Pavlina V.	Histology, Text and	Pensilvania:	2006		
			Atlas	Lippincott,			
				Williams			
				and Wilkins			

Number: 3

Attac	hment 3	Integrated cycle of studies –				
		Subject program				
1.	Subject	HISTOLOGY AND EMBRYOLOGY 1				
2.	Code	MED 113				
3.	Study Program	General Medicine				
4.	Institution	Ss Cyril and Methodius University in Skopje,				
	(Unit, Institute, Chair, Department)	Faculty of Medicine, Department of Histology and				
		Embryology				
5.	Degree of education	Integrated 6-year studies				
	(first,second or third cycle)	· · · · · · · · · · · · · · · · · · ·				
6.	Academic year/semester	YearFirst (I)SemesterFirst (I)				
7.	ECTS credits	5				
8.	Professor (when more professors,	Associate Prof. Lena Kakasheva Mazhenkovska,				
	responsible professor is assigned)	PhD, MD - responsible professor				
		*Lectures held by the professors from the				
		Department of Medical Histology and				
		Embryology				
9.	Language of the study	English				
10.	Preconditions for attending the classes	Conditional criteria for assessment of knowledge:				
	and taking the subject`s exam	Students which have succesfully pass the				
		continuous assessment, apply for final exam.				
		In case the student has not achieved minimum				
		points (60%) on each continual assessment,				
		he/she applies to take the complete final exam.				
		Complete final exam: The final exam is a				
		combination of both written examinations				
		(segments of the continuous assessments				
		with less of 60%) and final examination.				
		The grade for the entire exam is obtained				
		according to the table of grades and based on				

		the sum of the points gained in all the activities
		including the continual assessment.
11.	Subject program goals (competences) and study results:	 To get acquainted with the concept of human prenatal development. To be able to define and classify the tissues. To be able to stress out the functional abilities of each component of the tissue. To get skills to identify the tissues on microscopic slides, to elaborate their structural components and to compare their structure.
12.	Subject content in details by chapters and units, with study results for every chapter Theoretical and laboratory practice classes:	 The structure of male and female gamete; fertilization, implantation of the conceptus. Pre-embryonic period, (embryogenesis), embryonic period (organogenesis), fetal period. Structure and function of placenta and of embryonic sac. Disturbances of the prenatal development and origin of the congenital anomalies. Microscopic slides, microscope, tissues. Structural characteristics and types of epithelial, connective, cartilaginous, bone, muscle and nerve tissues. Histological characteristics of the: bones and junctions, heart, blood and lymphatic vessels, lympho-epithelial and lympho-reticular organs. Embryonic development and origin of the congenital anomalies of cardiovascular and skeletal system.
13.	Interconnection between subjects	Related to all subjects in the study program Signature from this subject provides attendance for Histology and embryology 2 Passed subject provides attendance to following exams: Anatomy 3, Physiology 1
14.	Description of the subject`s study and working methods in details	 Through visual presentation during accentuated concept lectures, study-goal oriented learning and interactive teaching. Through power point, video presentations and other aids during laboratory practice classes.

15. 16.		available time frame s of teaching	: 16.1.	Lect	 Through video-presentation a individual examination of mid slides. Through student presentation discussions during seminars. Through learning from recon literature and selected files av the web site of the Institute of and embryology. 150 school hours ures - theoretical lessons, hours 	eroscopie s and open nmended vailable on
	activit		16.2. 16.3.	Pract semi Pract	30	
17.	Other	forms of activities	17.1.	Proie	ects tasks: hours	
			17.2.		vidual tasks: hours	
			17.3.	Stud	ying at home learning	90
18.	signat	rement for ure	Conditional criteria for signature: To take active participation in all the teaching activities including continuous assessments.Active participation (points)min – max 1-3 Practical coursePractical course5–7			
19.	Metho	od of assessment				
	19.1	Tests: points	Continu	al ass	essment:	
			con 2. Wri 3. Lab	sequer tten: T orator	renatal development, placenta, causes a nees of the developmental disturbance 12-20 p Vissue structure y practice:	points points
			Mic	roscop	bic slides from different tissues 9-15	points
	19.2	Seminar paper/project, written and oral presentation: points	al /			
	19.3	Final exam:	 Lymphoid organs, skeletal system and cardio-vascular system (histology and embryology) 1. Laboratory practice: Microscopic slides of lymphoid organs, bone, heart, blood vessels and lymphatic vess (7 – 12 points) 			

20.	Grading (points /	g criteria ' grade)	cardiovascular (14 – 23 points Up to 59 From 60 to 68 From 69 to 76		cardiovascular system (histology and embryology) (14 – 23 points) Up to 59 points 5 (five) (H From 60 to 68 points 6 (six) (E From 69 to 76 points 7 (seven) (D From 77 to 84 points 8 (eight) (C				x) (E) en) (D) ht) (C)
			F					· · · · · · · · · · · · · · · · · · ·	(B) (B)
21.		of monitori				dent's ev		subject, teachers	en) (A) and
22.	Literatur	f teaching p	process		collaborators inv	volved 1	n the education	ai activities	
<i>LL</i> .	Literatur	C Mandator	v literatu	rature					
		Number			Author		Title	Publisher	Year
		1.	Ross		H, Wojciech P		ology, Text nd atlas	Philadelphia:L ippincott, Williams and Wilkins	2023
	22.1.	2.	Junque	Junqueira JK, Carne			ic histology, xt and atlas	Chicago: McGraw Hill	2021
		3.	Moore	KI	, Persaud TVN	Clinic	developing human ally oriented bryology	Mumbai: Elsevier	2012
		Addition	al literat	ure		I		·	ı
		Number			Author		Title	Publisher	Year
		1.	· ·	artment of histology embryology		Histol	ly guide for ogy & vology 1	http://medf.uki m.edu.mk/	2017
	2. Milenk N. 22.2.			ilenkova L, Kostovska		Opsta na	embriologija a covekot ral human	Mariv	2009
		3.	Kostov: L.	ska	N, Milenkova	Gradb (Histo structu		Mariv	2009
		4.	www.hi	isto	logyguide.com	on-line progra	e learning Imme		
		5.	www.bi	piolucida.com		on-line progra	e learning Imme		

Number: 4	
Attachment 3	Integrated cycle of studies – Subject program

1.	Subject	MEDICAL PSYCHOLOGY AND SOCIOLOGY					
2.	Code	MED 114					
3.	Study program	General Medicine					
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Anatomy					
5.	Degree of education (first, second, third cycle)	Integrated 6-year study					
6.	Academic year/semester	Year First (I) Semester First (I)					
7.	ECTS credits	5					
8.	Professor (when more	Prof. Slavica Arsova Hadji-Angjelkovska, PhD, MD -					
	professors, responsible	responsible professor					
	professor is assigned)	*Lectures held by professors from the Department of Psychiatry and Medical Psychology					
9.	Language of the study	English					
	Preconditions for attending the	Preconditions for attending the classes: None					
10.	classes and taking the subject's	The student is obligated to achieve a minimum of the intended					
	exam	points for each test or directly attend the final exam.					
11.	Subject program goals	• To introduce students with the basics of Medical					
12	(competences) and study results:	 Psychology and Medical Sociology: (basic concepts, psychological processes, psychological factors in health and illness) To enable the students to develop communication skills, establishing contact with the patient and the practical application of these skills To provide skills and knowledge for applying biopsychosocial approach to diagnosis and treatment of patients To provide skills and knowledge for exploring social determinants of health and the meaning of health and illness in the social context 					
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Psychological processes across the life span Consciousness and sleep – levels of awareness Senses and perception – the interpretation of sensory stimuli Attention – selection of information, planning Cognitive development – the changes in the capacities of the individual as a function of age and experience from birth to adulthood Cognitive aspects of ageing – the changes as a function of age and experience during later life Socio-emotional relationship across the life span Attachment 					

•	Learning – interaction with the environment, stable
	change in behavior or understanding
•	Memory – the cognitive processes of encoding,
	storing and retrieving information as a function of age
	Language and speech
	Development and personality structure, theories of
	personality development
•	Psychological defense mechanisms and their function
Psyc	hological factors in health and illness
•	Biological basis of behavior (genes and behavior)
•	Mental health and mental illness
•	Psychological factors in health promotion and illness
	prevention
Psyc	hological interventions – interventions to change
beha	vior, modify risk, and improve outcomes
•	Psychological processes in disease – pathways and
	mechanisms from psychological states to disease end
	points
•	Psychological aspects of pain
Pave	hological responses to illness
1 Syc	Emotional, cognitive and behavioral responses to
	illness
	to reduce effects of an acute or chronic illness
	Psychological stress and trauma
	Death, dying and bereavement
	Burn out syndrome
Psvc	hological counselling
	al determinants of health and illness:
	self-care
•	Social structure, social inequalities, social stress and
	coping
	Violence and health: ecological model, risk and
	protective factors
•	Social change and the meaning of gender, sexuality,
	suicide, mental illness, disability, death
	tical course:
	an communication and communication skills training
•	
•	interaction doctor patient. compliance, nearth
	education and difficulties in communication
•	Leadership and teamwork
	Social processes shaping professional behavior
	Psychological response to illness
	Response of the patient to the illness
	Response of an ill child Patient with acute illness

			Patient with chronic illness					
			 Patient with chronic timess Psychological profile of the personality of the patient 					
	Intercon	nection between	Connected to all subjects of the study	· ·				
13.	subjects		Precondition for entrance in VII semi-					
14.		ion of the subject's d working methods in	Interactive lectures, tutorials / worksh	ops, seminars				
	details	a working methods in						
15.	Total ava	ailable time frame	Hours 150					
16.	Forms of	f teaching activities	16.1. Lessons – theoretical lessons,	38				
			hours					
			16.2. Practical lessons (laboratory,	Practical lessons 28				
			auditory),	Seminars 9				
			seminars, team work: hours 16.3. Practice: hours					
	Othor fo	rms of activities						
17.	Other 10	i ms of activities	17.1.Project tasks: hours17.2.Individual tasks: hours					
1/.				75				
18.	Roquines	nents for signature	17.3.Studying at home: hoursIn order to get a signature, the student					
10,	Kequitei	nents for signature	points in both theoretical and practica					
			Active participation (points)	min – max				
			Theoretical course	1-3				
			Practical course	6-7				
19.	Methods	of assessment	•					
	19.1.	Tests: points	mi	minmax.				
			Continual assessments -2 total 48-80 points					
			• Test 1 24-	- 40 points				
			• Test 2 24	– 40 points				
			The student is obligated to achieve a	minimum of the intended				
			points for each test, otherwise they final exam.	shoul directly attend the				
	19.2.	Seminar	mi	nmax.				
		paper/project,	Seminar works 5-1	0 points				
		written and oral		*				
		presentation: points						
	19.3.	Final exam: points	Complet final exam	minmax.				
				48-80 points				
			The continuous knowledge assessme student may directly attend the final e					
			precondition to attend the second ex					
			passed both tests are not attending the					
			hasn't passed the first test or haven't attended the first test are obliged to attend the final exam. Assessment of the overall					
			performance is obtained based on					
			overall activities, including the tests of					
20.	Grading	criteria (points/grade)	Up to 59 points	5 (five) (F)				
			From 60 to 68 points 6 (six) (E)					

	1			1				
				From 69 to 76 points	7	(seven) (D)		
				From 77 to 84 points	8 (eight) (C)			
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points		10 (ten) (A)		
21.	Methods of monitoring the			Student anonymous evaluation	for the subject, teac	hers and		
	quality of the teaching process			associates participating in the	teaching.			
	Literatu	ire						
		Mandato	ry literature					
		Number Author		Title	Publisher	Year		
	22.1.	1.	Pedersen SS	Textbook of Applied Medical Psychology: A Multidisciplinary Approach	Odense: Syddansk Universitetsforlag	2022		
22.		Additional literature						
22.		Number	Author	Title	Publisher	Year		
	22.2.	1.	Sarkanjac B, Stefan Kostovski S	Sociology of Health and Illness	Skopje: UKIM, Faculty Philosophy	2010		
	<i>LL</i> . <i>L</i> .	2.	Chadlovski G, Filipovska A, Belevska D.	Medical Psychology	Prosvetno Delo, Skopje	2004		

Number:5

Atta	achment 3	Integrated cycle of studies – Subject program						
1.	Subject	INTRODUCTION TO ME	EDICINE					
2.	Code	MED 115						
3.	Study program	General Medicine						
4.	Institution (unit,		Ss Cyril and Methodius University in Skopje, Faculty of Medicine,					
	institute, chair,	Department of Social Medic	cine					
	department)							
5.	Degree of education							
	(first, second, third							
	cycle)			Γ				
6.	Academic	Year	First (I)	Semester	First (I)			
	year/semester							
7	ECTS credits	2						
8.	Professor (when more	Prof. Mome Spasovski, MI						
	professors,	*Teaching is conducted by a	all the teacher	s of the Departme	ent of Social			
	responsible professor	Medicine						
	is assigned)							
9.	Language of the	English						
	study							
10.	Preconditions for	Preconditions for attending	the classes: N	one				
10.	attending the classes							

	and taking the subject's exam	In order to take the final exam the student should pass the predicted continuous assessment and to achieve at least 60% of the total number of points for continuous assessment
11.	Subject program	Teaching goals of this subject are to improve the knowledge of the student
11.	Subject program	and to become familiar with:
	goals (competences)	
	and study results:	• the basic principles and tasks of medicine.
		• the history of medicine and public health.
		• character and importance of the medical professions, principles and
		levels of organization of health care.
		• health and disease and levels of prevention.
		basic characteristics and prevention of certain diseases and groups of diseases
12.	Subject content in	Theoretical course:
	details by chapters	
	and units, with study	Chapter 1: Medicine as science
	results for every	1. Medicine
	chapter	Study results of the chapter: The student to be able to understand the
		following concepts:
		• Definition, tasks, and division of medicine;
		 Natural scientific basis of medicine;
		 Development of modern medicine;
		Development of modern medicine,
		Chapter 2: History of madicing
		Chapter 2: History of medicine
		2. Early beginnings of Medicine
		Study results of the chapter: The student will be able to gain knowledge
		on:
		• Retrospective development of medicine and public health through
		the centuries;
		• The history of medicine as a science and practice in Macedonia;
		Chapter 3: Medical Education
		• Concept, development and reforms in the medical education
		The Medical Education and Medical Faculties in Macedonia
		Medical Specializations
		Study results of the chapter: The student will have improved knowledge
		on the following concepts:
		Medical Education, Edinburgh declaration;
		• Medical professions - legislative and ethical aspects;
		 Medical and other professions;
		 Internship and professional exam;
		• Specializations and sub-specializations.
		Chapter 4: Health and Disease
		Chapter 4: Health and Disease
		• Definition and theoretical conceptualization on health
		• Determinants of health
		Diseases: general characteristics
		Concepts of diagnosis, therapy and management of diseases
		Health promotion and levels of prevention
L	1	A A

Study results of the chapter: The student will be able to define health, disease and what predefines the health status of the individual and the population; especially about the social determinants of health and the basic principles on how these factors are address in preventive medicine practice. Moreover, the student will be introduced to the basic principle of clinical medicine and examination.
 Chapter 5: Health care Definition and concept of health care Principles of health care organization Levels of health care Concept of healthcare system The organization of health care and the health care system in N. Macedonia Study results of the chapter: The student will be introduced to the basic concepts of health care and
 healthcare system and to better understand her/his the future profession, recognized different healthcare institutions and types of services. Chapter 6: Ethics in Medicine Ethics, Medical Ethics and Bioethics: definitions and basic principles Development of ethics in medicine Ethical dilemmas and challenges in modern medicine;
 Doctor-Patient Relationship: ethical principles and models Medical Deontology; Hippocrates oat Patient rights Study results of the chapter: The student will be prepared on the conditions and values of being a medical student and doctor. It will empower the student to critical thinking and recognizing ethical dilemmas and values in medical education, research and practice. Also, this chapter by emphasizing on doctor-patient relationships and patients right will improve the students' communication skills, both verbal and non-verbal, empathy thought role play on theoretical and practical lessons.
Practical course:
 Chapter 1: Health and Healthcare Health Evaluation; Health Indicators; Database for health indicators and indicators of health care. Study results of the chapter: The student will be able to: Independently use the databases of health and health care indications by defining goals, indicators, search and presentation of results; Interpret data and to evaluate the health status of the population and different population groups; Define and recognize a health problems in the communities;

]			
		 Chapter 2: Medical Ethics Case studies: ethical principles; Case studies: medical professionalism; Case studies: Tuskegee Study. Study results of the chapter: Through mix classroom discussion and assignments using the method of case studies, real-life scenarios and assignments the students can better understand the importance of values and ethical principles and the consequences of non-ethical conduct in medicine. Moreover, the practical lessons will empower the student for critical thinking and professionalism during the studies and future profession. 				
		 Chapter 3: Academic Writing Writing a seminar paper: basic principles; Practical application of academic writing. Study results of the chapter: The student will gain practical skills in academic writing, from basic concepts, reading and recognizing scientific papers to writing up a seminar academic paper. Also, apart from writing skills, the group project task will help the student to develop communication and teamwork skills, giving and receiving feedback, and presenting skills. 				
13.	Interconnection between subjects	Related to all subjects in the study program. Signature from this subject provides attendance for Health Pr Passed subject provides attendance to VII semester	romotion.			
14.	Description of the subject's study and working methods in details	Interactive lectures, exercises, seminars and field practical w	ork			
15.	Total available time	60 hours				
16.	frame Forms of teaching activities	16.1.Lessons – theoretical lessons, hours16.2.Practical lessons, seminars, team work: hours16.3.Practice: hours	15 hours 15 hours			
17.	Other forms of activities	17.1.Project tasks: hours17.2.Individual tasks: hours17.3.Studying at home: hours	30 hours			
18.	Requirements for signature	To get a signature the student is required to attend the practical training and seminars and to achieve minimum point the final exam . To access to the final exam the student should pass t continuous assessment and to achieve at least 60% of the tot points for continuous assessment, whereby in the exam sessit the unpassed continuous checks, then comes to the final exam. The grade of the subject is formed in accordance with the tabbased on the sum of points from all activities, continuous assessment.	ts to access he predicted al number of on first takes m. ble of grades,			

	Methods of assessment							
19.	19.1.	Tests:	points			Min-max	18-30	
	19.2.	Semin points	nar paper/project, writte	en and	l oral presentation:	Min-max	6-10	
	19.3.	Final	exam: points			Min-max	30-50	
			-			Theoretical course		
	~			.	o 59 points	Practical course	3-5	
20.	Grading	criteria	(points/grade)		$\frac{5 \text{ (five) (F)}}{6 \text{ (aix) (E)}}$			
					n 60 to 68 points n 69 to 76 points		6 (six) (E) 7 (seven) (D)	
					n 77 to 84 points		$\frac{7 \text{ (seven) (D)}}{8 \text{ (eight) (C)}}$	
					n 85 to 92 points		9 (nine) (B)	
					n 93 to 100 points		10 (ten) (A)	
21.	Methods	of moni	toring the quality of	Ano	nymous student's ev	valuation of the sub	ject, teachers	
	the teach		cess	and	collaborators involv	ed in the education	al activities	
	Literatu	re						
		Manda	tory literature					
			Author		Title	Publisher	Year	
	22.1.	1.	Seturaman KP.		Communication skills in clinical practice	Skopje: Tabernakul	2010	
22.		2.	Spasovski M, Tozija F, Kjosevska E. at al.		Introduction to medicine	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2023	
		3.	Tulchinsky T, Varavikova E, Cohen MJ.		The New Public Health. 4 th Edition	New York: Elsevier	2023	
		Additi	onal literature					
			Author		Title	Publisher	year	
	22.2.	1.	Tozija F, Spasovski M, Kjosevska E, at al.		Introduction to medicine Handbook	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2023	

Numl	Number:6					
Attachment 3		Integrated cycle of studies – Subject program				
1.	Subject	BIOPHYSICS				
2.	Code	MED-116				
3.	Study program	General Medicine				
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Faculty of				
	chair, department)	Medicine, Department of Biophysics				

5.	Degree of education (first, second, third cycle)	Integrated 6-year studies						
6.	Academic year/semester	Year	First (I)	Semester	First (I)			
7	ECTS credits	3						
8.	Professor (when more	Assoc. Prof. Tomislav Stankovski, PhD, MD - responsible						
0.	professors, responsible	professor						
	professor is assigned)	*Lectures held by the professors from the Department of						
	professor is assigned)	Biophysics						
9.	Language of the study	English						
	Preconditions for attending the	Preconditions for attending the classes: None						
10	classes and taking the subject's	In order to take the fir			d obtain the			
10.	exam	minimum points in th						
		course.		I	r			
11.	Subject program goals		asic laws of	Physics applie	d in			
	(competences) and study	Medicine;						
	results:	-	the process	ses of the living	organisms			
				he Biophysics 1	•			
				mechanics, flu				
		optics and the			, ,			
				al and magneti	c forces, as			
		well as their o	ccurrence a	nd application	in living			
		organisms;			-			
		• To learn the ba	asic charact	eristics of Non-	ionizing and			
		Ionizing radia	tion and the	ir use in Medic	ine.			
		 To learn the physics background of medical diagnostic methods To learn the physics background of medical therapy 						
		procedures						
12.	Subject content in details by	Contents of the stud						
	chapters and units, with study	Biophysics ba		stem theory				
	results for every chapter	Biomechanics						
		 Biophysics of 						
			on, oscillati	ions and waves				
		Bioacoustics						
		Optics						
		X-ray and nu		on				
		Thermodynamics						
		Electrical forces						
		Electromagnetism						
		Theoretical course:						
		 Biophysics basics. Divisions in Biophysics. System theory. System control. Important theories. 						
		Basics of biomechanics. Levers of the locomotor sustar: Work and neuron of the man. Machanical						
		system. Work and power of the man. Mechanical						
		work of the heart. Elasticity. Bone fractures.						
		• Fluids and their characteristics. Liquid viscosity.						
		Hydrodynamics. Breathing as exchange of fluid gases. Physical model of the blood vessels. Surface						
		gases. Physic	ai model of	me blood vesse	eis. Surface			

			 tension of liquids. Atmospheric pressure. Mechanics of breathing. Bioacoustics. Oscillations and waves. Sounds waves. Physics of ear and speech system. Ultrasound. Application of sound in Medicine. Basic geometric laws in optics. Optical instruments. Eye as an optical instrument. Infrared light. NIRS method. Thermography. Ultraviolet light. Quantum optics. Lasers. RF and microwave ablation. X-ray radiation. X-ray spectra. Application of X-ray in Medicine. Computer Tomography. Nuclear physics and nuclear reactions. Physics of Nuclear Medicine basics. SPECT and PET methods. Hybrid SPECT-CT methods. Radiotherapy. Physics of radiotherapy. Thermodynamic processes. Biological open systems. Physiological effect of heat on human body. Electrical forces. Electrostimulation. Heart Bypass. Biopotentials and electrophysiology. Electromyography. Electromagnetic induction. Magnetic resonance. Systematic overview of medical diagnostic methods from physics perspective. Signal and digital image processing methods. 		
13.	Interconnection between	• Relate	Cardio-respiratory oscillations. d to all subjects in the study program.		
15.	subjects		subject provides attendance to following examination and the study program.	ms:	
	J	Radiol	ogy, Nuclear Medicine		
14.	Description of the subject's study and working methods in details		etical lectures and lab experiments		
15.	Total available time frame	90 ho		451	
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	45 hours	
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	15 hours	
		16.3.	Practice: hours	/	
	Other forms of activities	17.1.	Project tasks: hours	/	
17.		17.2.	Individual tasks: hours		
		17.3.	Studying at home: hours	30 hours	
18.	Requirements for signature	Only two absences from the lab experiments are permitted for obtaining a signature.The two continuous tests are taken only during the lectures, after that one needs to go to the full exam. The written and the oral test are taken either during the lectures			

				n the full final exam. In either ca		subject one	
	needs to get at least the minimum required points. Based on the acquired points, the grade is formed according to						
19.	Methods	of assessmen		able of grades (given above).			
	19.1.	Tests: poin	ts		2 Continuous tests 36 - 60 points Oral (written) exam 18 - 30 points Lab activity 6 - 10 points		
	19.2.	Seminar pa	per/project, written	and oral presentation: points			
	19.3.	Final exam	: points		60-100 points		
20. Grading criteria (points/grade) Up to 59 points From 60 to 68 points From 69 to 76 points				7	5 (five) (F) 6 (six) (E) (seven) (D)		
				From 77 to 84 points From 85 to 92 points From 93 to 100 points	8	8 (eight) (C) 9 (nine) (B)	
21.	the teach	ing process	ng the quality of	Anonymous evaluation takes subject, teachers and collabo educational activities	10 (ten) (A) n by the students, of the prators involved in the		
	Literatur	re					
		Mandatory	literature				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Brown BH, Smallwood RH, Barber DC, Lawford PV, Hose DR.	Medical physics and biomedical engineering.	Boca Raton: CRC Press	1998	
22.		2.	Bialek W	Biophysics: Searching for Principles	Princeton: Princeton University Press	2012	
		Additional	literature				
		Number	Author	Title	Publisher	year	
	22.2.	1.	Stankovski T.	Tackling the inverse problem for non- autonomous systems: Application to life sciences	Berlin: Springer	2013	
		2.	Stankovski T	Biophysics – internal materials	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2015	

	3.	Andonovska N	Biophysics	Skopje: Ss	2005
				Cyril and	
				Methodius	
				University	

Numł	per:7							
	achment 3	Integrated cycle of studies – Subject program						
1.	Subject	SPORT AND HEALTH						
2.	Code	MED 118						
3.	Study program	General Medicine	e					
4.	Institution (unit,	Ss Cyril and Met	hodius Uni	versity in Skopje, Faculty	of physical education,			
	institute, chair,	sport and health, Department of physical education, sport and sports						
	department)	management						
5.	Degree of	Integrated 6-year study						
	education (first,							
-	second, third cycle)							
6.	Academic	Year	First (I)	Semester	First (I)			
-	year/semester	1						
7	ECTS credits		1 1					
8.	Professor (when	Prof. Slavica Nov	vachevska,	PhD - responsible profess	sor			
	more professors,							
	responsible							
	professor is assigned)							
9.	Language of the	English						
).	study	English						
	Preconditions for	Preconditions for	• attending t	he classes: None				
	attending the	Preconditions for attending the classes: None If the student does not fulfill the obligations of the practical part of the						
10.	classes and taking	course, he atends to the final test.						
	the subject's exam							
11.	Subject program	The purpose of the Sport and Health subject is for students to acquire by						
	goals	adopting new and improving old motor knowledge and skills, improving						
	(competences) and	motor, morphological and functional abilities with the aim of improving						
	study results:	health, satisfying	movement	needs, enabling the stude	nt to rationally,			
				use of free time as well as				
			of life in youth, adulthood and old age. Acquiring knowledge about the					
		structure, rules and principles of the training process and the specifics of the						
		training activity.						
12.	Subject content in	A. Program - bas	sic regular p	program - basketball, volle	eyball, handball, futsal,			
	details by chapters	development of motor skills, dance fitness programs (aerobics, step aerobics,						
	and units, with	pilates, etc.),	• , 1•		1 1.1.			
	study results for			g (self-financing)-swimmi				
	every chapter	1 0 2 0		ing, fitness, tennis, ice ska	6			
		the student's diag		n special needs (Physical a	cuvilies depending on			
			· /	tions (Faculty and Univer	sity sports			
		G. Program - sports competitions (Faculty and University sports						
		competitions)						

13	Intercon	nection	Related to all subjects in the study program.					
15	between		Related to an subjects in the study program.					
14.	Descripti	on of the study and methods	(analytical, syn	Lectures, presentations, discussions, demonstrations, practical exercise (analytical, synthetic and complex). Under methods we use laboratory method, practical method, individual, frontal and group method.				
15.	Total ava time fran	ilable	30 hours					
16.			16.1.	Lessons – theoretical lessons, hours	2 hours	2 hours		
			16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	Practical lessons 24 hours Seminars 4 hours			
			16.3.	Practice: hours				
	Other for	rms of	17.1.	Project tasks: hours				
17.	activities		17.2.	Individual tasks: hours				
			17.3.	Studying at home: hours				
18.	Requiren signature			linimum 60% attendance of the classes				
19.		of assessme						
	19.1. Exercises during practical			•				
	19.2.	Seminar p presentati	aper/project, wri	itten and oral 40 points				
	19.3.	Final exar				100 points		
20.	Grading criteria (points/grade)			Up to 59 points	5 (five)			
				From 60 to 68 points	6 (six)			
				From 69 to 76 points	7 (seven)			
				From 77 to 84 points	8 (eight)			
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points		10 (ten) (A)		
21.		of monitori aching proce	ng the quality ess	Setting goals, setting standards, assessing achievement of standards, communication and reporting on achievements, accountability, support and intervention.				
	Literatur	·e						
		Mandator	y literature					
		Number	Author	Title	Publisher	Year		
22.	22.1.	1.	Chandler T, Mike Cronin M, Vamplew W	Sport and physical education- The key concepts	London: Routledge	2007		

	2.	Freeman WH.	Physical Education, Exercise and Sport Science in a Changing Society	Burlington: Jones & Bartlett Publishers	2013
	3.	Thorpe D, Buti A, Jonson P, Anderson J	Sports Law eBook Fourth Edition	Oxford University Press	2022
	Additional	literature			
	Number	Author	Title	Publisher	Year
	1.	Shukova Stojmanovska D	Physiological hygiene and health education and sport	Kocani : "Evropa 92"	2022
22.2.					
	2.	Markovski N, Tasevski Z	Football	Skopje: Bomat Grafiks	2021
	3.	Naumovski M, Daskalovski B	Theoretical basis of basketball	Skopje: Gogo Prom	2016

Atta	ichment 3	Integrated cycle of studies – Subject program			
1.	Subject	ANATOMY 2			
2.	Code	MED 121			
3.	Study program	General Medicine			
4.	Institution (unit, institute,	Ss Cyril and Methodius Univ	versity in	Skpoje, Medical	Faculty,
	chair, department)	Department of Anatomy			
5.	Degree of education (first,	Integrated 6-year studies			
	second, third cycle)				
6.	Academic year/semester	Year	First	Semester	Second
			(I)		(II)
7	ECTS credits	7			
8.	Professor (when more	Prof. Biljana Zafirova, PhD,			or
	professors, responsible	*Lectures held by all profess	sors from	the Department	
	professor is assigned)				
9.	Language of the study	English			
	Preconditions for attending	Precondition for attending the classes is signature from Anatomy 1.			
10	10. the classes and taking the subject's final exam subject's exam Anatomy 1 and passed all of the three continual asso			are passed	
10.				ree continual as	sessments of
		Anatomy 2.			

11.	Subject program goals	• Introduction to the descriptive and topographical anatomy
	(competences) and study	of the thoracic, abdominal and pelvic walls;
	results:	• Introduction to the topography of the thoracic, abdominal
		and pelvic cavity;
		• Introduction to the morphology, the structure and the
		syntopic, skeletotopic and holotopic relations of the
		thoracic, abdominal and pelvic cavity contents.
12.	Subject content in details	The theoretical part of the course deals with the comprehensive
	by chapters and units, with	concept of the curriculum. The practical part corresponds with the
	study results for every	theoretical course.
	chapter	
	-	Theoretical lessons:
		1. General characteristics of the chest
		2. Chest walls
		 Skin and soft tissues
		- Chest wall muscles (anterolateral muscles, back muscles,
		diaphragma)
		- N. phrenicus
		- Vascularization and lymphatic drainage (arteries, veins,
		lymphatic system of the chest wall)
		 Nerves of the chest wall
		 Breast (mamma) Chest equity (equites thereeis)
		3. Chest cavity (cavitas thoracis)
		- Arterial vessels of the chest cavity (aorta, truncus pulmonalis)
		- Veins of the chest cavity (v. cava superior, v. cava inferior,
		azygous vein system)
		- Autonomic nervous system of the chest cavity (truncus
		symphaticus thoracalis, n.vagus)
		 Lymphatic drainage (ductus thoracicus)
		– Thymus
		 Thoracic part of the esophagus
		4. Respiratory system (apparatus respiratorius)
		 Pulmones, pleura, trachea, bronchus principalis
		5. Cardiovascular system
		– Cor, pericardium
		6. Surface anatomy of the chest and projections
		7. Introduction to abdominal anatomy
		8. Abdominal walls
		– Abdominal wall muscles (anterolateral muscles and posterior
		abdominal wall muscles)
		- Weak spots on the anterolateral wall (canalis inguinalis,
		annulus femoralis, annulus umbilicalis)
		- Weak spots on the posterior wall (trigonum lumbale- Petit,
		quadrilaterum Grynfelti)
		- Arterial vessels of the abdomen (aorta abdominalis and it's
		branches)
		– Abdominal veins (v.cava inferior, v.portae)
		 Lymphatic system of the abdomen
		 Abdominal nerves (plexus lumbalis, plexus celiacus)

		9. Abdominal cavity
		– Peritoneum, cavitas peritonealis abdominis: general
		characteristics and overview
		10. Abdominal organs
		– Esophagus, ventriculus s. gaster, intestinum tenue (duodenum,
		jejunum, ileum), intestinum crassum (cecum, colon), hepar,
		hepatobiliary system, pancreas, lien
		11. Spatium retroperitoneale: general characteristics and
		overview
		- Ren, gl.suprarenalis, abdominal part of the urinary tract
		12. Introduction to pelvic anatomy (pelvic cavity- major and
		minor)
		13. Pelvic walls and cavity
		 Pelvic muscles, pelvic floor muscles (diaphragma pelvis) Pelvic function of the second s
		– Pelvic fascia and pelvic urogenital peritoneum
		 Anatomical spaces in the pelvic cavity Versula institute (a illine intermediation)
		 Vascularization (a. iliaca interna, v. iliaca interna)
		– Pelvic lymphatic drainage
		– Innervation (n. pudendus, plexus coccygeus, plexus
		hypogastricus inferior -plexus pelvicus) 14. Perineum
		 Muscles and fascia of the perineum
		- Muscles and fascia of the permean
		– (trigonum anale – fossa ishioanalis, trigonum urogenitale –
		membrana perinei and spaces)
		 Vascularization and lymphatic drainage
		 Innervation of the perineum
		15. Pelvic organs
		 Pelvic part of the urinary tract: pelvic part of the ureter, vesica
		urinaria, prostate, urethra masculina, urethra feminine.
		– Male reproductive organs (testis, epididymis, ductus deferens,
		funiculus spermaticus, paradidymis, ductus ejaculatorius,
		accessory glands of the male reproductive system, external male
		genitalia)
		– Female reproductive organs (vulva, vagina, uterus, tuba uterina,
		ovarium)
		– Pelvic part of the digestive system: rectum, canalis analis
		Practical part:
		Practical exercises on cadavers, or more specific:
		 Regions of the thorax with the organs in the thoracic cavity.
		- Regions of the abdomen with the organs in the abdominal
		cavity.
		 Regions of the pelvis with the organs in the pelvic cavity.
		- Learning the morphology, structure, syntopic, skeletotopic and
		holotopic relationships of the organs in the thoracic, abdominal
		and pelvic cavity by practical exercises on cadavers and fixed
12	Intonoonu - t ² h. t	specimens.
13.	Interconnection between subjects	Related to all subjects in the study program
1	subjects	

			and Physiol	Passed subject provides attendance to following exams: Anatomy 3 and Physiology 1.				
14.		ption of the subject' and working method ils		Interactive teaching during lectures and practical trainings, seminars.				
15.	Total a	vailable time frame	210	210				
16.	Forms	of teaching activitie	s 16.1.	Lessons – theoretical lessons, hours	45			
			16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	45			
			16.3.	Practice: hours				
			17.1.	Project tasks: hours				
17.	Other f	forms of activities	17.2.	Individual tasks: hours				
			17.3.	Studying at home: hours	120			
			seminar pap	icipation (points) course	to present a min – max 1- 2 points 4 – 6 points			
19.		ds of assessment						
	19.1.	Tests: points	 Thorax Abdomen Pelvis *Each continu part is scored for oral part conta examine the st The student is 	essment of knowledge - 3 1 1	-15 points. The 5-3 points) that intended points			
	19.2.	Seminar paper/project, written and oral presentation: points			min – max 1 - 2			
	19.3.	Final exam: points	*Practical exan	nination	min - max 9-15 points			

		*	*Practical examination of the final exam contains region of the					
		1	orax, abdomen and pelvis, performed on cadavers and fixed organs.					
20.	Gradin	g criteria		to 59 points		5 (five) (F)		
	(points/	'grade)		to 68 points		6 (six) (E)		
			From 69	to 76 points		7 (seven) (D)		
			From 77	to 84 points		8 (eight) (C)		
				to 92 points		9 (nine) (B)		
			From 93 to	o 100 points		10 (ten) (A)		
21.		ls of monitoring			for the subject, teachers	and		
	the qua process	lity of the teaching	associates particip	pating in the	teaching.			
	Literati	ure						
		Mandatory literature						
		Number	Author	Title	Publisher	Year		
	22.1.	1.	Drake RL, Vogl AW, Mitchell AWM	Gray`s Anatomy for Students	New York: Elsevier	2019		
		2.	Halliday NL,Chung, HM.	Gross Anatomy	Pensilvania: Lippincott Williams & Wilkins	2023		
22.		Additional literatu	lditional literature					
		Number	Author	Title	Publisher	year		
		1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013		
	22.2.	2.	Paulsen F, Jens W.	Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019		

Atta	Attachment 3		Integrated cycle of studies –			
		Subject	program			
1.	Subject	HISTO	LOGY AND	EMBRYOLO	DGY 2	
2.	Code	MED 12	MED 122			
3.	Study Program	General Medicine				
4.	Institution	Ss Cyri	Ss Cyril and Methodius University in Skopje,			
	(Unit, Institute, Chair, Department)	Faculty	Faculty of Medicine, Department of Histology and			
		Embryo	logy	-		
5.	Degree of education	Integrate	ed 6-year stud	lies		
	(first, second or third cycle)		-			
6.	Academic year/semester	Year	First (I)	Semester	Second (II)	

7.	ECTS credits	6		
8.	Professor (when more professors, responsible professor is assigned)	Assoc. Prof. Lena Kakasheva Mazhenkoska PhD MD - responsible professor *Lectures held by the professors from the Department of Medical Histology and Embryology		
9.	Language of the study	English		
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: Signature from Hystology and Embriology 1 In order to take the final exam, the student should obtain the minimum points from the continual assessments.		
11.	Subject program goals (competences) and study results:	 Acquiring skills of analysing histology microscopic slides and precise identification of structural components of tissues and organs Acquiring ability of comprehension of: specific combination of tissues in each organ; crucial components of organs;specific structural properties determining basic organ function; role of additional (supporting) structural and functional components. Acquiring ability to present comprehension of origin and organ development; Acquiring basic ability to make causal- consequential connection between potential disruption of organ development and type of resulting congenital anomaly. 		
12.	Subject content in details by chapters and units, with study results for every chapter	Microscopic structure, embryonic development, concept of origin of congenital malformations of organ systems		
	Theoretical and laboratory practice classes:	 Gastrointestinal system, Urinary system, Genital system, Respiratory system, Endocrine system, Central nervous system, Skin Sensory organs. 		
13.	Interconnection between subjects	Related to all subjects in the study program Passed subject provides attendance to following exams: Pathology 1.		
14.	Description of the subject`s study and working methods in details	Through visual presentation during accentuated concept lectures, study-goal oriented learning and interactive teaching.		

15.	Total available time frame:			 and other aids during laboratory p classes. Through video-presentation and in examination of microscopic slide Through student presentations and discussions during seminars. Through learning from recommen- literature and selected files availar 	 and other aids during laboratory practice classes. Through video-presentation and individual examination of microscopic slides. Through student presentations and open discussions during seminars. Through learning from recommended literature and selected files available on the web site of the Institute of histology and embryology. 		
16.		of teaching	16.1.	Lectures - theoretical lessons, hours	30		
	activit		16.2. 16.3.	Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	45		
17.	Other	forms of activities	17.1.	Projects tasks: hours			
			17.2. 17.3.	Individual tasks: hours Studying at home learning	18 87		
18.	Requirement for signatureConditional To take activ including co Theoretical c			al criteria for signature: ctive participation in all the teaching activities continuous assessments.			
19.	Metho	d of assessment					
	19.1.	Tests: points	Continual assessment: 1. Gastrointestinal system, Written: (8.4-14 points) Microscopic slides (2.4 - 4 points) 1. Urinary and male & female genital systems, Written: (13.2-22 points) Microscopic slides (2.4 - 4 points) Microscopic slides (2.4 - 4 points) Skin, Respiratory system, Endocrine system, CNS, Eye, Ear 1. Practical: Microscopic slides (4,8 – 8 points) 2. Oral: (22,8-38 points)				
	19.2	Seminar paper/project, written and oral presentation: points					
	19.3	Final exam:					

	Г			Conditional criteria	for asse	esment of knowle	dae Studente w	hich
				have succesfully pass the continuous assessment, apply for final exam.				
				Complete final exam: The final exam is a combination of				
				both written exam				
				assessments with le				5
				The grade for the e				table
				of grades and based			•	
				activities including				
20.	Grading	g criteria		up to 59	points		5 (fi	ve) (F)
	(points)			From 60 to 68			6 (si	x) (E)
	~			From 69 to 76	points		7 (seve	en) (D)
				From 77 to 84	points		8 (eig	ht) (C)
				From 85 to 92	points		9 (nii	ne) (B)
				From 93 to 100	points		10 (te	en) (A)
21.	Method	of monitor	ring the	Anonymous stu	dent's e	valuation of the s	subject, teachers	and
		of teaching	process	collaborators in	volved i	n the educational	l activities	
22.	Literatu	ire						
		Mandato	ry litera					
		Number		Author		Title	Publisher	Year
		1.	Ross N	/IH, Wojciech P		ogy, Text and	Philadelphia:	2023
					atlas		Lippincott,	
							Williams and	
	00.1		-	·			Wilkins	0.001
	22.1.	2.	Junque	eira JK, Carneiro H		histology, Text	Chicago:	2021
					and at	las	McGraw Hill	
		3.	Moore	KL, Persaud TVN	The de	eveloping	Mumbai:	2012
		5.	WIGOIC	oole KL, Felsaud I vin			Elsevier	2012
					human Clinically oriented			
					embry	•		
		Addition	al litera	ture		8/		1
		Number	Author	r	Title		Publisher	Year
		1.	Depart	tment of histology	Study	guide for	http://medf.u	2017
				nbryology	Histology &		kim.edu.mk/	
					embry	ology 2		
		2.	Kostov	vska N, Milenkova	Histol	ogy and	Skopje: Ss	2013
			L.		embry		Cyril and	
						opment of	Methodius	
	22.2.				organ	systems	University,	
							Faculty of	
							Medicine	
		3.		The stuff of the		ed files (Power	Contiuously	
				rtment of histology		presentations)	revised	
			a	nd embryology		ble on the web		
					site of	f the Medical		
		4.		nistalaguranida agen	~ ~	Faculty line learning		
		4.	www.f	nistologyguide.com		line learning		
					p	rogramme		

5.	www.biolucida.com	on-line learning	
		programme	

Numb						
Attachment 3		Integrated cycle of studies – Subject program				
1.	Subject	MEDICAL CHEMISTRY				
2.	Code	MED 123				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Medical Faculty,				
	institute, chair,	Department of medical and experimental biochemistry				
	department)					
5.	Degree of education	Integrated 6-year studies				
	(first, second, third					
	cycle)					
6.	Academic	Year First (I) Semester Second (II)				
	year/semester					
7	ECTS credits	7				
8.	Professor (when more	Prof. Svetlana Cekovska, PhD - responsible professor				
	professors, responsible	*Lectures held by all professors from the Department of medical and				
	professor is assigned)	experimental biochemistry				
9.	Language of the study	English				
	Preconditions for	Preconditions for attending the classes: None				
10.	attending the classes	In order to take the final exam, the student should obtain the minimum				
100	and taking the	points in the two continual assessments.				
	subject's exam					
11.	Subject program goals	Teaching goals:				
	(competences) and	• To repeat about the Science of Matter and Chemical Bonds in				
	study results:	Molecules;				
		• To learn about Solutions and Electrolytes;				
		• To understand the Energy and Kinetics of chemical reaction;				
		To learn about Acids and Bases, Redox reaction, pH and				
		Buffers; To loom about the Structure and Properties of Opporties				
		To learn about the Structure and Properties of Organic				
		Compounds;To learn about the biologically important Organic compounds				
		(Carbohydrates, Proteins, Lipids, Nucleic acids).				
12.	Subject content in	Theoretical course:				
	details by chapters	• Structure of atoms and molecules, Ionic, Covalent bonds,				
	and units, with study	Intermolecular forces;				

13.	results for every chapter	Chemi equilib • Solutio Strong • Oxido- pH, Bu • Chemi Aroma Aldehy contair • Structu nucleic • Chemi water, the nat Practical lesso • Prepara solutio solutio • Calcula • Nomer medici Related to all ss Passed subject	ons, Types of solutions, Colligative electrolytes (dissociation); reduction (Redox reactions), The offers; stry of carbon atoms, Alkanes, A tic compounds and their derivate vdes, Ketones, Carboxylic acids, ning compounds; tres and functions of carbohydrate e acids; stry of pollution, pollution of air purification of contaminated wate ural environment, getting clean v ns: ation and examination of colligat ns, Volumetric analysis in chemi n concentration; ation from chemical equations ar neclature of more important organ ne, reactions of carbohydrates, p ubjects in the study program provides attendance to following ented lectures, interactive lecture ring and presentation of seminar	eactions, Chemical ve properties, Weak and eory of acids and bases, alkenes, Alkynes, es, Alcohols, Phenols, Nitrogen and Sulfur- es, proteins, lipids, r, natural waters, sea ter before returning to water. tive properties of stry, Calculation of ad formulas; ic compounds in rotein and lipids. g exams: Biochemistry 1 s, group work, practical
15.	working methods in details Total available time	studying at hor 210 classes		
	frame			
16.	Forms of teaching activities	16.1. 16.2.	Lessons – theoretical lessons, hours	41 Practical lassons 40
		16.3.	Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	Practical lessons 40 Seminars 9
	Other forms of	17.1.	Project tasks: hours	. /
17.	activities	17.2.	Individual tasks: hours	/
		17.3.	Studying at home: hours	120
18.	Requirements for signature	10 points from	gnature in the index, the student is practical exercises, a minimum oint from attending lectures on ation (points) urse	of 1 point from seminar
19.	Methods of assessment			10 12

	19.1.	Tests: points			Test 1 min-max	x 12-20		
	17.11	I			Test 2 min-max			
	19.2.	Seminar pape points	er/project, written	min-max	x 1-5			
	19.3.	Final exam: p	ooints		Practical exam-	written		
		1			min-max	x 9-15		
					Final exam (oral	l		
					examination)			
					min-max			
20.	Grading	criteria (points	/grade)	Up to 59 points		$\frac{1}{1}$ (five) (F)		
				From 60 to 68 points		(six) (E)		
				From 69 to 76 points		$\frac{7 \text{ (seven) (D)}}{8 \text{ (sin 1.4) (C)}}$		
				From 77 to 84 points		$\frac{8 \text{ (eight) (C)}}{0 \text{ (mina) (D)}}$		
				From 85 to 92 points From 93 to 100 points		9 (nine) (B) 10 (ten) (A)		
21.	Mathada	ofmonitoring	the quality of	Anonymous student eva	luction of the subic			
21.		of monitoring t ing process	the quanty of	and collaborators involv				
	Literatur			and condoorators involv	ed in the education			
		Mandatory literature						
						I		
		Number	Author	Title	Publisher	Year		
		1.	Denniston KJ, Topping JJ, Caret RL	General, Organic and Biochemistry, 9 th ed	New York: Mc Graw Hill Education	2017		
	22.1.	2.	Vujovic Z	Selected parts of chemistry for the students of Medical School	Belgrade: Medical Faculty, Belgrade, Serbia	2006		
22.		3.	Jones L, Atkins P	Chemistry: molecules, matter, and change	New York: W.H. Freeman and Company	2002		
		Additional lit	erature					
		Number	Author	Title	Publisher	year		
	22.2.	1.	Krstevska M, Alabakovska S, Efremova Aaron S, Labudovic D, Cekovska S	General and Organic Chemistry for Medical Students	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2014		

2.	Dzhekova- Stojkova S, Korneti P, Todorova B, Trajkovska S.	Biochemistry	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2011
	S.			

Numb							
Atta	chment 3		ycle of studies – S				
1.	Subject		CTION TO HUM	AN GENETICS			
2.	Code	MED 124					
3.	Study program	General med	icine				
4.	Institution (unit,		Methodius Univer	sity in Skopje, Fac	culty of Medicine,		
	institute, chair,	Department	of human genetics				
	department)						
5.	Degree of	Integrated 6-	year studies				
	education (first,						
	second, third						
	cycle)			~			
6.	Academic	Year	First (I)	Semester	Second (II)		
7	year/semester ECTS credits	5					
		-	5				
8.	Professor (when		Prof. Elena Shukarova-Angelovska - PhD, MD - responsible professor *Lectures held by all professors from the Department of human genetics				
	more professors, responsible	*Lectures ne	and by all professor	s from the Departr	nent of numan genetics		
	professor is						
	assigned)						
9.	Language of the	English					
<i>`</i>	study	Linghish					
	Preconditions for	Obtained the	signature of the M	forphology and ph	ysiology of the cell.		
	attending the		•		l obtain the minimum points		
	classes and		l and practical part		1		
10.	taking the	ctive participa	tion (points)				
10.	subject's exam		- ·		$\min - \max$		
		Theoretical c	ourse		6-10 points		
		Practical cou	irse		6-10 points		
11.	Subject program			the basic genetic p	principles that influence		
	goals	medical p	practice				
	(competences)						
	and study results:						

-		
12.	Subject content in details by chapters and units, with study results for every chapter	 Training the students regarding basic principles of cytogenetic, molecular genetics, biochemical genetics, population genetics, reproductive genetics and genetics in forensic medicine including diagnostic methods Educating the students on basic principles in inheritance-mendelian and nonmendelian Training the students about basic ethical principles in genetics and communication with families with genetic disorders and malformations Contents of the study program: Theoretical course: Basics of human genetics - organization of prokaryotic and eukaryotic DNA, nuclear and non-nuclear DNA, basic processes of replication, transcription and translation, regulation of gene expression and signaling, gene mapping in prokaryotes and eukaryotes, recombinant DNA cloning, basics of cytogenetics, chromosome organization, frequent chromosomal aberrations, cell cycle and mitotic and meiotic division, and errors in their behavior, cellular and molecular basis of heredity, Mendelian genetic factors in common diseases. Mapping and identification of genes for monogenetic diseases. Developmental genetics and processes that disrupt embryonic development. Mutations-types, ways of occurrence and systems for repair of the DNA. Molecular and biochemical basis of genetic diseases. Basics of onkogenetics and immunogenetics. New technologies and future possibilities for gene therapy. Prenatal and postnatal genetic testing of inherited and genetic conditions, ethical aspects of genetic examinations.
13	Interconnection between subjects Description of the subject's study	 Practical course: Methods of genetic analysis - DNA extraction, methodts for detecting of known and unknown mutations and polymorphisms. Methods of writing and interpretation of the results. Basics in cytogenetics - performing karyotype, staining methods, FISH, detection of chromosomal aberrations. Interpretation of the mendelian and nonmendelian inheritance, interpretation of the types of the mutations, oncogene changes. Screening methods in the population-methods and organisation. Basics in dysmorphology and clinical recognition of the syndrome and multimalformations, basic principles in prenatal and postnatal detection of malformations, genetic counseling. Related to all subjects in the study program Signature from this subject provides attendance for Introduction to Immunology Passed subject provides attendance to VII semester. Integrated lecturers, practical tutorials/seminars.
	and working methods in details	
15.	Total available	150 hours: 30 theoretical lecturers, 30 practical tutorials, 90 hours home
	time frame	learning and seminar work
L		

16.	Forms of teaching		16.1.		Lessons – theo hours	retical lessons,		30
			16.2.		Practical lessons (laboratory, auditory), seminars, team work: hours			30
			16.3.		Practice: hours	3		
17.	Other for activities	ms of	17.1.		Project tasks: 1		depending interest of	student
			17.2.		Individual task		depending interest of	
			17.3.		Studying at ho		90	
18.	Requiren		60%	% of teor	ethical and 80%	of practical traini	ng	
	signature							
		of assessm		1				
19.	19.1.	Tests: po	oints			min	max	
				Conti	nual assessment	t1 8	25	
				Conti	nual assessment	t 2 8	25	
	19.2.	Seminar			optiona	ıl		
	paper/projec		oject,		1			
		written a						
	presentation: points19.3.Final exam: points		presentation: points					
			am: points			min	max	
			Theor	retical exam	30	50		
				Oral e	exam	18	30	
				If the student passes all 3 continuous tests with minimal points				
						f 2 colloquiums), l	ne can pass dir	ectly on
				the oral	l exam		1	
20.	Grading	criteria (p	oints/grade)			Up to 59 points		(five) (F)
				From 60 to 68 points				(six) (E)
						m 69 to 76 points		even) (D)
				From 77 to 84 points				ight) (C)
						m 85 to 92 points	,	nine) (B)
1			•			93 to 100 points		(ten)(A)
21.		of monito				evaluation of the s		rs and
	Literatur		ing process	collabo	orators involved	in the educational	activities	
	Literatur							
		Mandato	ory literature					
		Number	Autho	r	Title	Publis	her	Year
		1.	Mueller RF,	Young	Emery's	New York: Elsie	ever	2017
			ID.	C	Elements of			
22.	22.1				Medical			
	22.1.				Genetics.			
					15^{th} ed.			
		2.	Strachan T, I	Read	Human	Oxford Universi	ty Press	2018
			А		Molecular Genetics 5 th			
					I - OTO OTI OC SU			
					ed.			

	3.	Gardner RM, Sutherland GR	Chromosome abnormalitie s and genetic counseling, 4 nd ed	Oxford University Press	2012
	4.	Nussbaum RL, McInnes RR, Willard HF	Thomson&T homson Genetics in medicine 8 th ed	New York: Elsiever	2015
	Addition	al literature			
	Number	Author	Title	Publisher	year
	1.	Kocova M.	Medical genetics	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2013
22.2.	2.	Petlickovski A.	Authorized lecturers	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2014
	3.	Practicums for practical lessons 1&2	Authorized lecturers	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2009

	iber:12					
Atta	ichment 3	Integrated cycle of studies – Subject program				
1.	Subject	HEALTH PROMOTION				
2.	Code	MED 125				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss. Cyril and Methodius Univ	ersity in Sl	copje Faculty of N	Medicine,	
	institute, chair,	Department of Social Medie	cine			
	department)					
5.	Degree of education	Integrated 6-year studies				
	(first, second, third					
	cycle)			1		
6.	Academic	Year	First (I)	Semester	Second (II)	
	year/semester					
7	ECTS credits	1				
8.	Professor (when more	Prof. Elena Kjosevska, PhD	, MD - resp	ponsible professo	r	
	professors,	*Lectures held by all professo	rs from the	Department of S	locial	
	responsible professor	Medicine		-		
	is assigned)					
9.	Language of the	English				
	study	-				
	Preconditions for	Preconditions for attending the classes: a signature for the subject				
10.	attending the classes	Introduction to Medicine.				
10.	and taking the	In order to take the final exam	, the stude	nt should pass the	predicted	
	subject's exam	continuous assessment.				

11.	Subject program goals (competences) and study results:	Preparin purposes	ng for the independen s	tes of health and health pr t performance with educa up at all the levels of healt	tional
12.	Subject content in details by chapters and units, with study results for every chapter	 Objectiv Health p Motivati Forms, r promotion Health p Health p Health p Health p Areas of Planning Methodor Practicini Health p Health p Health p 	promotion and health ion for learning health methodology and too on promotion principles promotion methods promotion tools f work in health prom g and organization of ology of preparation on program in the co	health education is intend education h promotion ls in work in the field of h Thealth promotion and implementation of the mmunity in the Republic Macedoni	ealth e health
13.	Interconnection between subjects		Il subjects in the stud		
14.	Description of the subject's study and working methods in details	Passed subject provides attendance to VII semesterPresentation of cases from clinical practice;Organizing an open discussion in small groups on a given topic;Play a role according to a given scenario;Practicing communication, practicing presentation skills, preparation ofessay – seminar paper			
15.	Total available time frame	30			
16.	Forms of teaching activities	16.1. 16.2. 16.3.	Lessons – theoretica Practical lessons (la seminars, team wor Practice: hours	boratory, auditory),	10 5
17.	Other forms of activities	17.1. 17.2. 17.3.	Project tasks: hours Individual tasks: ho Studying at home: h	urs	5
18	Requirements for signature	To get a sig practical tr Theoretica	gnature, the student aining and seminar	is required to attend the rs and to achieve minim Min max 2 5 2 5	e theoretical,
19.	Methods of assessment			20, 20	
	19.1. Tests: points	5		20 - 30	

	19.2.	Saminannan	an/manaia at www	uttan and anal	6 - 10	
	19.2.	presentation:		ritten and oral	0 - 10	
	19.3.	•			30 - 50	
	19.5.	Final exam:	points		50 - 50	
					T1	. . .
					The grade from the ass	
					the subject is formed in	
					with the table of grade	
					the sum of points from	
					activities, continuous o	checks and
					final examination.	
20.	Grading	criteria (point	s/grade)	Up to 59 points		5 (five) (F)
				From 60 to 68		6 (six) (E)
				points		
				From 69 to 76		7 (seven) (D)
				points		
				From 77 to 84	8 (eight)	
			points			
				From 85 to 92	9 (nine) (
				points		
				From 93 to 100		10 (ten) (A)
				points		
21.		of monitoring		Anonymous student's evaluation of the subject,		
	quality of	f the teaching p	process		borators involved in the	educational
				activities		
	Literatur	·e				
		Mandatory li	iterature			
		Number	Author	Title	Publisher	Year
		1.	State of	Measuring health	Rural and Regional	2008
		1.	Victoria,	promotion	Health and Aged Care	2000
			Departme	impacts: A guide	Services Division	
22.	22.1.		nt of	to impact	Victorian Government	
	22.1.		Human	evaluation in	Department of Human	
			Services,	integrated health	Services	
			2003	promotion	Services	
				President		

	2.	Donev D, Mirchevs ka L, Stojanovs ka V, Kjosevska E, Velkovski Z. Gligorov I, Rizova E	Health promotion and health education	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2013
	3.	Spasovski M, Tozija F, Kjosevska E, Topuzovs ka G, Nikovska D.	Introduction in medicine	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2023
	4.	EU Directorat e for Health and Food Safety	Mapping metrics of health promotion and disease prevention for health system performance assessment	Luxembourg Publications: Office of the European Union	2023
	Additional li	-		1	
	Number	Author	Title	Publisher	year
22.2.	1.	Donev D, Pavlekovi c G, Zaletel Kragelj L.	Health promotion and disease prevention	Hans Jacobs Publishing Company	2007

Attachment 3		Integrated cycle of studies – Subject program
1.	Subject	MEDICAL ETHICS AND DEONTOLOGY
2.	Code	MED 126

3.	Study program	General Medicine
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Faculty of Medicine,
	chair, department)	Department of Medical deontology
5.	Degree of education (first,	Integrated 6-year cycle
	second, third cycle)	
6.	Academic year/semester	Year First (I) Semester Second (II)
7	ECTS credits	2
8.	Professor (when more	Prof. Zlatko Jakjovski, PhD, MD - responsible professor
0.	professors, responsible	*Lectures held by the professors from the Department of Medical
	professor is assigned)	deontology
	protessor is assigned)	decinology
9.	Language of the study	English
	Preconditions for	Preconditions for attending the classes: None
10.	attending the classes and	In order to take the final exam, the student should obtain minimum
	taking the subject's exam	points in theoretical courses
11.	Subject program goals	• adoption of the historical basis for the development of
	(competences) and study	medical ethics and deontology
	results:	• adoption of the most important elements of medical ethics
		• adoption of the rights, in particular the duties of health
		workers in terms of patients and their relatives and other
		representatives
		• introduction to proper treatment in their daily practice
		trough examples
		• interactive learning, debate and seminar papers as tools for
		easier adoption of matter and free thinking on certain
		ethical issues
12.	Subject content in details	Theoretical course:
	by chapters and units,	 Introduction to the general principles of ethics as a
	with study results for	philosophical science
	every chapter	• Introduction to ethical principles in different historical eras
		Introduction to bioethics
		 Known philosophical teachings and philosophers that interface with medical ethics
		General principles of medical ethics
		Respect and equal treatment
		Communication and consent (informed consent)
		Presumed consent
		• Decisions on behalf of patients who are unable to
		individually give consent, the notion of representation,
		participation of such patients to the moment of their end
		capabilities of understanding
		Medical secret
		 Beginning of life, ethical problems in biological assisted
		fertilization (BAF)
		• End of life, ethical problems of euthanasia
		• Ethical tenets of behavior among health workers
		• Ethical tenets of behavior among health workers and
		patients
		• Ethical tenets of behavior among health workers and relatives of patients

13.	subjects Descriptio subject's s working n details	study and nethods in	 Transplant and ethical dilemmas, especially in situations of possible cadaveric transplants Medical error and ethical problems Codes of medical ethics and deontology Most important conventions and declarations, particularly after 1948 that basically have the Universal Declaration of Human Rights by the UN Seminar papers: Students themselves choose matter in the field of medical ethics and deontology. Related to all subjects in the study program Passed subject provides attendance to VII semester. Lectures, PPP, interactive discussions, exercises, working in small groups, seminars, interactive teaching, debate and seminar papers 				
15.	Total avai	ilable time frame	60 hours				
16.	Forms of t activities	teaching	16.1. 16.2.	Lessons– theoretical lessons, hours30 hoursPractical lessons(laboratory, auditory), seminars, team work: hours–			
			16.3.	Practice: hours			
17.	Other for	ms of activities	17.1.	Project tasks: hours			
			17.2.	Individual tasks: hours		20.1	
10	D		17.3. Studying at home: hours 30 hours				
18.	Requirem signature	ients for	In order to get a signature, the student should obtain minimum points in theoretical courses Theoretical course: points min. 6 – max. 10 Presence on theoretical course: 51-60% - 6 points 61-70% - 7 points 71-80% - 8 points 81-90% - 9 points 91-100% - 10 points				
19.	Methods of	of assessment		re pomo			
	19.1.	Tests: points			Continual a min. 24 – n		
	19.2.	Seminar paper/pr points	oject, written	and oral presentation:	Seminar wo min. 6 – ma	orks	
	19.3.	Final exam: point	S		Written exam min. 24 – max. 40		
20.	Grading c	riteria (points/gra	de)	Up to 59 points	5 (five) (F)		
		_		From 60 to 68 points	6 (six) (E)		
				From 69 to 76 points	7 (seven) (I	/	
				From 77 to 84 points	8 (eight) (C	/	
				From 85 to 92 points	9 (nine) (B)		
				From 93 to 100 points 10 (ten) (A)			

21.	Methods of monitoring the quality of the teaching process			Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities					
	Literatur	e							
		Mandatory literature							
		Number	Author	Title	Publisher	Year			
	22.1.	1.	Rogers WA, Braunack – Mayer A.	Practical Ethics for General Practice	Oxford University Press	2009			
		2.	Boshkoski K.	Medical ethics and deontology	Skopje: OZ Dizajn	2007			
22.		3.	World Medical Association	Manual of ethics for medical doctors SLA, translation	Skopje: Macedonian Medical Association	2005			
		Additional literature							
		Number	Author	Title	Publisher	Year			
	22.2.	1. Jakjovski Z.		Collection of Declarations, Conventions, Codes and laws -Teaching materials on English for students prepared by Department of Medicine deontology	Ss Cyril and Methodius University, Faculty of Medicine, Department of Medicine deontology	2018			

Atta	achment 3	Integrated cycle of studies – Subject program						
1.	Subject	FIRST AID	FIRST AID					
2.	Code	MED 127						
3.	Study program	General Med	icine					
4.	Institution (unit, institute, chair, department)	•	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of surgery					
5.	Degree of education (first, second, third cycle)	Integrated 6-	year studies					
6.	Academic year/semester	Year	First (I)	Semester	Second (II)			
7	ECTS credits	1	·		·			
8.	Professor (when more professors, responsible professor is assigned)	*Lectures he	I Prof. Oliver Stankov, PhD, MD - responsible professor *Lectures held by professors from the Department of Anesthesiology with reanimation and Department of Surgery					

9.	Language of the study	English	
	Preconditions for	Preconditions for attending the classes: None	
10	attending the classes	In order to take the final exam, the student sho	ould attend the theoretical,
10.	and taking the	practical training and seminars and to gain minin	
	subject's exam		
11.	Subject program goals	Introducing the basics of first aid and life supp	oort skills.
	(competences) and	Students are introduced with the principles and	
	study results:	unconscious situations, bleeding, broken bone	
		accidents, as well as the system of modern tria	
12.	Subject content in	First cycle	8
	details by chapters	• What is first aid: introduction, meaning	g and methods
	and units, with study	• Reasons that lead to the need of provi	
	results for every	assessment of the situation: awareness, breath	
	chapter	Basics of cardiac pulmonary resuscitation	
	enapter	Reanimation	
		Life support	
		 Asphyxia and other conditions of imp 	aired breathing
		 Poisoning 	
		• Other types of emergency situations	
		 Aches 	
		Second cycle	
		Wounds and bleeding	
		 Fractures 	
		 Injuries on the muscle and joint surface 	265
		 Burns 	
		 Bandaging and bandages 	
		 Effects of low and high temperatures 	
		 Procedures for major incidents – organ 	nization
		 Blackouts. 	inzution
13.	Interconnection	Related to all subjects in the study program	
15.	between subjects	Passed subject provides attendance to VII sem	ester
14.	Description of the	Classes will be held in the form of a two-day i	
1	subject's study and	day will be taught theoretical classes and prac	
	working methods in	on reanimation phantom (3 class's theory and	
	details	exercises). The second day will be taught theo	
	uctans	exercises in surgery (taking care of wounds, w	
		(3 class's theory and 4 classes practical exerci	
		Discussion and consultation with teachers.	
15.	Total available time	30	
10.	frame		
16.	Forms of teaching	16.1. Lessons – theoretical lessons	, hours 7 hours
10.	activities	16.2.Practical lessons (laboratory,	,
	avu v 11103	seminars, team work: hours	
		16.3. Practice: hours	
	Other forms of	10.5.Project tasks: hours17.1.Project tasks: hours	
17.	activities		
1/.	activities	17.2. Individual tasks: hours	
		17.3.Studying at home: hours	15 hours
18.	Requirements for	To get a signature the student is required to atten	
1	signature	training and seminars and to gain minimum scor	res

19	Methods	of assessment							
	19.1.	Tests: points				60 - 100			
	19.2.	Seminar pape points	er/project, written	and oral presentation:		/			
	19.3.	Final exam: p	points		Reanimation	n 30 -50			
					Surgery	30 - 50			
20.	Grading	criteria (points	s/grade)	Up to 59 points		5 (five) (F)			
				From 60 to 68 points		6 (six) (E)			
				From 69 to 76 points		7 (seven) (D)			
				From 77 to 84 points		8 (eight) (C)			
				From 85 to 92 points		9 (nine) (B)			
				From 93 to 100 points		10 (ten) (A)			
21.		s of monitoring ning process	the quality of	Anonymous student's eva teachers and collaborators activities.					
	Literature								
		Mandatory literature							
		Number	Author	Title	Publisher	Year			
22.	22.1.	1.	Jeffrey Schaider Stephen R. Hayden Richard Wolfe Roger M. Barkin Peter Rosen	Rosen and barkin's 5 minute emergency medicine consult.	Skopje: Tabernakul	2011			
	22.2.	Additional lit	erature						
		Number	Author	Title	Publisher	Year			
		1.	Mirjana Shosholcheva and co- autors	Cardio pulmonary resuscitation	Ss Cyril and Methodius University, Faculty of Medicine	2021			

Num	ber:15	
Att	achment 3	Integrated cycle of studies – Subject program
1.	Subject	ANATOMY 3
2.	Code	MED 211
3.	Study program	General Medicine
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Medical Faculty,
	institute, chair,	Department of Anatomy
	department)	

Degree of education (first, second, third cycle)	Integrated 6-year studies			
Academic year/semester	Year	Second (II) Seme	ester	Third (III)
ECTS credits	6			•
Professor (when more professors, responsible professor is assigned)				Anatomy
	English			
Preconditions for attending the classes and taking the subject's exam	Precondition for attending 2, Histology and Embriology	ogy 1, and the precon	ndition fo	or taking the
Subject program goals (competences) and study results:	 structural elements To become acquain neck; To become acquain lymph vessels, ner To become acquain the sense of hearin To become acquain 	of the head and neck, need with the topograp need with the muscles, wes and the organs of need with the morpholo og, sense of sight and so need with the morpholo	; hy of the fasciae, i the head ogy and s sense of l ogy, strue	e head and blood and and neck; structure of balance; cture and
Subject content in details by chapters and units, with study results for every chapter	 concept of the curriculum theoretical course. Theoretical course: 1. Introduction to head and 2. Head and neck muscless – subcutaneous (mirr masticatorii, m. st mm. infrahyoidei, m. 3. Arteries of the head and – a. carotis commun subclavia 4. Veins of the head and r – v. jugularis interna 5. Lymphatic system of the 6. Nerves of the head and – nn. craniales, plexu 7. Organs of the head and – cavum oris, lingua, pharynx, nasus ex larynx, glandula th caroticus, bulbus accessoria, auris ex 	The practical part of nd neck anatomy inic) muscles of the h ernocleidomastoideus mm. scaleni, mm. prev d neck is, a. carotis externa, neck is carotis externa, neck is cervicalis, rr.dorsale i neck is thmus faucium, tons cternus, cavum nasi yroidea, glandulae pa oculi and it's con cterna, auris media, au	head, pla , mm. su vertebrale a. caroti . jugulari es nn. cer silla pala , sinus rrathyroic ntent, o	tysma, mm. aprahyoidei, es is interna, a. es ext. et ant. evicalium tina, gll.oris, paranasales, leae, glomus rgana oculi
	first, second, third cycle) Academic year/semester ECTS credits Professor (when more professors, responsible professor is assigned) Language of the study Preconditions for attending the classes and aking the subject's exam Subject program goals competences) and study results:	first, second, third yycle) Academic year/semester Year ECTS credits 6 Professor (when more professors, responsible professor is assigned) Prof. Biljana Zafirova, PhE Language of the study English Preconditions for attending the classes and aking the subject's seam Precondition for attending 2, Histology and Embriold subject's final exam is pass Subject program goals competences) and study results: • To become acquair neck; Subject content in details by chapters and units, with study results for every chapter • The theoretical part of th corriculum theoretical course: Subject content in details The theoretical course: Subject source in inframyoide; not subclavia • Veins of the head and neck muscles - subclavia 4. Veins of the head and neck muscles - subclavia 4. Veins of the head and neck muscles - subclavia 4. Veins of the head and neck muscles - n. carotis commun subclavia 4. Veins of the head and neck muscles - n. carotis commun subclavia - n. carotis commun subclavia - n. carotis commun subclavia -	first, second, third cycle) Year Second (II) Seme Academic year/semester Year Second (II) Seme CCTS credits 6 Professor, responsible professor, responsible Prof. Biljana Zafirova, PhD, MD - responsible professors from the Depart anguage of the study English Precondition for attending the classes is passed / 2. Histology and Embriology 1, and the precons ubject's final exam is passed continual assessm Subject program goals competences) and study results: • To become acquainted with the morphol structural elements of the head and neck • To become acquainted with the morphol the sense of hearing, sense of sight and • To become acquainted with the morphol the significance of the central nervous sy (CNS). Subject content in details by chapters and units, with study results for very chapter The theoretical part of the course deals with concept of the curriculum. The practical part of theoretical course: 1. Introduction to head and neck anatomy 2. Head and neck muscles - subclavia - subcularios of the head and neck - v. jugularis interna, sinus durae matris, v. Subject content in details by chapters and units, with study results for very chapter Precortical course: 1. Introduction to head and neck anatomy 2. Head and neck muscles - subclavia <th>first, second, third Year Sccond (II) Semester ECTS credits 6 Professor (when more professors, responsible professor is assigned) Prof. Biljana Zafirova, PhD, MD - responsible professor is assigned) Language of the study English Preconditions for trending the classes and aking the subject's final exam is passed continual assessment from subject program goals competences) and study results: Precondition for attending the classes and study is structural elements of the head and neck; Subject program goals competences) and study results: To become acquainted with the morphology and the structural elements of the head and neck; Subject content in details by chapters and units, with study results for svery chapter To become acquainted with the morphology, and the significance of the central nervous system con (CNS). Subject content in details by chapters and units, with study results for svery chapter The theoretical part of the course deals with the cor concept of the curriculum. The practical part correspont theoretical course: 1. Introduction to head and neck – subcutaneous (mimic) muscles of the head, pla masticatorii, m. stemocleidomastoideus, mm. studelaw 3. Arteries of the head and neck – v. jugularis interna, sinus durae matris, v. jugularis interna, sinus durae matris, v. jugularis 4. Veins of the head and neck – v. jugularis interna, sinus durae matris, v. jugularis 5. Lymphatic system of the head and neck</th>	first, second, third Year Sccond (II) Semester ECTS credits 6 Professor (when more professors, responsible professor is assigned) Prof. Biljana Zafirova, PhD, MD - responsible professor is assigned) Language of the study English Preconditions for trending the classes and aking the subject's final exam is passed continual assessment from subject program goals competences) and study results: Precondition for attending the classes and study is structural elements of the head and neck; Subject program goals competences) and study results: To become acquainted with the morphology and the structural elements of the head and neck; Subject content in details by chapters and units, with study results for svery chapter To become acquainted with the morphology, and the significance of the central nervous system con (CNS). Subject content in details by chapters and units, with study results for svery chapter The theoretical part of the course deals with the cor concept of the curriculum. The practical part correspont theoretical course: 1. Introduction to head and neck – subcutaneous (mimic) muscles of the head, pla masticatorii, m. stemocleidomastoideus, mm. studelaw 3. Arteries of the head and neck – v. jugularis interna, sinus durae matris, v. jugularis interna, sinus durae matris, v. jugularis 4. Veins of the head and neck – v. jugularis interna, sinus durae matris, v. jugularis 5. Lymphatic system of the head and neck

		 Medulla spinalis, truncus cerebri (medulla oblongata, pons mesencephalon), cerebellum, diencephalon, cerebrum. Meninges and cerebrospinal fluid Vascularization of CNS Functional systems (CNS pathways: motor, sensory, auditory, vestibular, visual, olfactory, gustatory), limbic and neuroendocrine system, the functional anatomy of the reticular formation, monoaminergic and cholinergic systems and organization of the CNS for higher integrative functions. Practical lessons: Topographical regions of the head and neck 				
- 10		-	tion of CNS parts on fixed models			
13.	Interconnection between		bjects of the faculty.	the closes of		
	subjects		Anatomy 3 is precondition for taking Clinical examination 1.	the classes of		
14.	Description of the		ing during lectures and practical training	nings seminars		
17.	subject's study and working methods in details		ing during rectares and practical tran	ings, seminus.		
15.	Total available time frame	180				
16.	Forms of teaching	16.1.	Lessons – theoretical lessons, hours	45		
	activities		Practical lessons (laboratory,	45		
			auditory), seminars, team work: hour	s		
			Practice: hours			
17	Other forms of activities		Project tasks: hours			
17.			Individual tasks: hours			
10			Studying at home: hours	90		
18.	Requirements for signature	in both theoreti paper; In order to take t points in the corr If the student ha assessments, he exam with previ	tion (points)	in the continual before the final natomy.		
19.	Methods of assessment	I				
-/•	19.1. Tests: points		Continual assessment 1			
	1			min – max		

								12-20 points
						Myo and 1	logy, angiology and neuro neck.	logy of the head
	19.2.		paper/pro tion: poin	ject, written and	oral			min-max 1-2
	10.3	<u> </u>						1-2
	19.3.	Final exi	am: points	3		*T * Tes the c **Pr neck *** (quess impos subje The s of th exam	 max. Fest *Practical examination **Oral examination st: Organs of the head and entral nervous system. actical examination: region Oral examination (integration) Oral examination (integrative known of the integrative known of the integrative known of the integrative known of the integrated to ache e intended points for eache a separately so that the point of the integrated. 	n of the head and tive) : Includes 6 om 3-5 points) nowledge that is the point of the nieve a minimum a part of the final pints for the final
							nsidered failed.	,
20.	Grading	,		Up to 59 p	oints			5 (five) (F)
20.	criteria	,		From 60 to 68 p				$\frac{6 (six) (F)}{6 (six) (E)}$
	(points/g	grade)		From 69 to 76 p				7 (seven) (D)
	ur me	,,		From 77 to 84 p				8 (eight) (C)
				From 85 to 92 p				9 (nine) (B)
			F	From 93 to 100 p				10 (ten) (A)
21.	Methods	s of		_		for the	e subject, teachers and ass	
	monitor		participa	ating in the teach	ing.			
	quality o							
	teaching							
	process Literatu	ro						
	Literatu		1					
	22.1.		datory lite					
	<i>44</i> .1.	Nı	umber	Author	Ti	tle	Publisher	Year

	1.	Drake RL, Vogl AW, Mitchell AWM	Gray`s Anatomy for Students	New York: Elsevier	2019
	2.	Halliday NL,Chung, HM.	Gross Anatomy	Pensilvania: Lippincott Williams & Wilkins	2023
	Additional liter	ature			
	Number	Author	Title	Publisher	year
	1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013
22.2.	2.	Paulsen F, Jens W.	Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019

	Attachment 3 Integrated cycle of studies – Subject program						
		Integrated cycle of studies – Subject program					
1.	Subject	BIOCHEMI	BIOCHEMISTRY 1				
2.	Code	MED 212					
3.	Study program	General Med	icine				
4.	Institution (unit,	Ss. Cyril and	Methodius Unive	ersity in Skopje, Faculty of Me	dicine,		
	institute, chair,	Department of	of Biochemistry a	nd Clinical Biochemistry			
	department)						
5.	Degree of education	Integrated 6-	year studies				
	(first, second, third						
	cycle)		1		-		
6.	Academic	Year	Second (II)	Semester	Third		
	year/semester				(III)		
7	ECTS credits	7					
8.	Professor (when more	Assoc. prof.	Irena Kostovska				
	professors, a	*The lectures	s held by all mem	bers of the			
	responsible professor	Department of	of Biochemistry and	nd Clinical Chemistry			
	is assigned)						
9.	Language of the study	English					
	Preconditions for	Precondition	s for attending the	e classes: passed exam in Medi	cal		
10.	attending the classes	chemistry.					
10.	and taking the	In order to ta	ke the final exam,	, the student should obtain the	minimum		
	subject's exam	points from t	heoretical course,	, practical course and seminars	5.		

11.	Subject program goals (competencies) and study results:	 To learn and to define the major characteristics of proteins, carbohydrates, lipids, and nucleic acid bases, of nucleotides, and nucleosides (both ribose and deoxyribose-forms); To describe the flow of genetic information (DNA→ proteins); naming the three types of RNAand their roles; To learn about plasma proteins, immunoglobulins; To learn the structure and the transport through the biological membranes; To describe different types of membrane transport and biosignalization; To define hormones and hormone cascade system; introducing peptides, amino acid-derived hormones, and steroid hormones and their role in signal transducing; To be informed about the translocation of proteins in different cell compartments; To define the vitamins as enzyme cofactors, hormones (vitamins A and D), antioxidants (vitamin E), and antihemorrhagic compounds (vitamin K); To be informed about the six classes of the enzymes; To understand the types of enzyme catalysis and the types of catalyzes enzyme kinetics, and inhibition of the enzyme
		reactions;
12.	Subject content in	Theoretical course:
	details by chapters and	• Water metabolism;
	units, with study	• Biochemistry of the cell;
	results for every chapter	• Structure and function of the nucleic acid bases of nucleotides and nucleosides (both ribose and deoxyribose-forms);
	-	• Structure and function of the proteins, protein synthesis, protein
		degradation, gene expression regulation;Structure and function of the hemoglobin, myoglobin, and
		amino-acid derivates;
		• Structure of the extracellular matrix, collagen, elastin, laminin, cartilage;
		Biochemistry of the cytoskeleton;
		• Translocation of the proteins importunes and exporters;
		 Plasma proteins, immunoglobulin (s); Carbabydratas as a compound of the call membrane
		Carbohydrates as a compound of the cell membrane, homoglycans, heteroglycans, glycosaminoglycans (hetero-
		polysaccharides of the extracellular matrix), proteoglycans,
		glycoproteins, glycolipids;
		 Lipids as energy storage, as membrane components, signals,
		and pigments;
		• Lipoproteins;
		• Hormones, definition, chemical structure, biosynthesis, transport, degradation, mechanism of action, physiological
		effects;
		• Signal transduction, second messengers, tyrosine kinase, G-
		coupled protein receptors, JAK-Stat kinase, protein kinase G;Biological membranes and transport;

13.	subject's	subjectsSignature provides attendance for following subjects: Clinical examination 2, Pathology 2, Pharmacology, Transfusiology Passed subject provides attendance to following exams:tion of theClassroom-oriented lectures, interactive lectures, group work, practical				
	working	methods in	studying at home			
15.	details Total ava	uilable time	210 hours			
13.	frame		210 110013			
16.	Forms of	teaching	16.1.	Lessons – theoretical less	,	45 48
	activities		16.2.	Practical lessons (laborato		
			16.3.	seminars, team work: hours Practice: hours		12
	Other for	rms of	17.1.	Project tasks: hours		
17.	activities		17.2.	Individual tasks: hours		
			17.3.	Studying at home: hours		105
18.	Requiren signature		students are (minimum	gnature that the course has e requested to actively par l point), practical course (th), and seminars (minimum 1	ticipate in the theone student has to be	oretical course
19.		of assessment				
	19.1.	Tests: points				max. 9-15
	10.2	Continuous te				max. 9-15
	19.2.	Seminar pape points	r/project, wri	tten and oral presentation:	Theoretical cour min max. 2-3 Practical course min max. 7-12 Seminar paper min max. 3-5	
	19.3.	Final exam: p	points		Practice Final E min max. 12-20	

					Final oral exam min max. 18-30	
20.	Grading	criteria (points/	/grade)	Up to 59 points		5 (five) (F)
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		(seven) (D)
				From 77 to 84 points		(eight) (C)
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.		of monitoring t	he quality	Anonymous student evalu		
		ching process		and collaborators involved	d in the educational ac	tivities
	Literatu	·e				
	22.1.	Mandatory literature				
		Number	Author	Title	Publisher	Year
		1.	Merey RK all.	Harper's Illustrated Biochemistry, 28th Edition	Chicago: MC Graw Hill	2009
22.		2.	Nelson DL, Cox M	Lehninger Principles of Biochemistry, 7th Edition	New York: W. H. Freeman	2017
		Additional lite	erature			
		Number	Author	Title	Publisher	year
	22.2.	1.	Lieberman M	Mark's Basic Medical Biochemistry	Philadelphia: Lippincott Williams & Wilkins	2013

Atta	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	PHYSIOLOGY 1					
2.	Code	MED 213					
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss Cyril and Methodius Ur	niversity in Sko	pje, Faculty	of		
	chair, department)	Medicine, Department of	Physiology				
5.	Degree of education (first,	Integrated 6-year study					
	second, third cycle)						
6.	Academic year/semester	Year	Second (II)	Semester	Third (III)		
7	ECTS credits	11					
8.	Professor (when more	Prof. Beti Dejanova PhD, I					
	professors, responsible	*Lectures held by all profe	essors from the	Department			
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for attending	Preconditions for attending the classes: Cell Morphology and					
10.	the classes and taking the subject's exam	Physiology, Histology and	Embryology 1	, Anatomy 1	and 2.		

11.	Subject program goals (competences) and study results:	 In order to take the final exam, the student should obtain the minimum points from the continual assessments. To understand the functional organization of the human body To define homeostasis and to consider the maintenance of the internal environment
		 To consider the functioning of each body system by physiological mechanisms To clarify the relations among body systems within physiological conditions To predict and understand integrated responses of the body systems in physiological references
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Functional organization of the human body, homeostasis by the feedback mechanisms and regulation of the body function. Physiology of muscles: skeletal and smooth muscle tissue Physiology of heart, cardiac cycle, heart tones, heart rate, physiology of circulation: arterial and venous systems, microcirculation and lymphatic system, control mechanisms of circulatory regulation, blood pressure regulation. Physiology of blood and blood components, blood groups, hemostasis and coagulation Physiology of respiratory system: respiratory and conductive zones, respiratory circulation, gas exchange and gas transport, respiratory regulation Physiology of body fluids and body fluids regulation Physiology of gastrointestinal system, digestion: cephalic, gastric and intestinal phase; peristalsis Physiology of liver and metabolism of carbohydrates, fats and proteins, energy balance regulation, basal metabolism, nutrition Skin physiology, termoregulation and body temperature Body adaptation under specific conditions: hypobaric and hyperbaric conditions, physiology of sport Practical course: Muscle activity examination, heart muscle performance in experimental animals and the influence of different stimuli, bioelectrical signals and electrocardiography registration and analysis Blood analysis, blood components, blood groups determination, hemostasis examination

13.	subjects			Determination of respiratory fulung function tests Examination of digestion: gastr digestive enzymes activity Body temperature testing, meta and a meal planning assessment Testing the cardiovascular adap determination of the cardioresp maximal aerobic power to all subjects in the study prog re provides attendance for Physi subject provides attendance to for the provides attendance to for any sology 2, Microbyology with cal examination 1 ive lectures of theoretical and pro-	ic fluid acidity bolism rate det tation during e iratory capacit ram ology 2, Patop ollowing exam parasitology 2	e and eermination exercise, y and hysiolog hysiolog hysiolog	on y 1 gy
		working methods in		cing experimental animal model	s and compute	r learning	g by
15.	details	ilable time frame	virtual r	nodels and videos.			
15. 16.		teaching activities	16.1.	Lessons – theoretical lessons,	hours		75
10.	1 01 1115 01	teaching activities	16.2.	Practical lessons (laboratory, a			75
			10.2.	seminars, team work: hours	<i>(aarory)</i> ,		10
			16.3.	Practice: hours			
	Other for	ms of activities	17.1. Project tasks: hours				
17.			17.2.	Individual tasks: hours			
			17.3. Studying at home: hours				180
18.	Requirem	ents for signature	attendan Theoret	dent has to obtain minimum poir nce points ical course attendance l course attendance	nts for each con mi 1 8	n ma 3	
	Methods of	of assessment	1				
	19.1.	Tests: points			max Test I Test II Test III Test IV	min 9 9 9 9	15 15 15 15
	19.2.	Seminar paper/projec	t, written	and oral presentation: points	max	min	2
	19.3. Final exam: points				Seminar	1 	3
	19.3.	rmai exam. pomis			max Final exam	14	23
20.	Grading			Up to 59 points		5 (five)) (F)
	Staaing	(Points Stude)		From 60 to 68 points		6 (six)	
				From 69 to 76 points	,	7 (seven)	· /
				From 77 to 84 points		8 (eight)	. ,
				From 85 to 92 points		9 (nine)	

					From 93 to 100 points		10 (ten) (A)
21.	Methods of monitoring the quality of the teaching process				Checking the student's attend	ance and student	s''s
	the teach	ing process		-	anonymous evaluation of the	teaching process	5
	Literature	e					
	-	Mandatory	literature	•			
		Numł	ber	Author	Title	Publisher	Year
		1.	Guyton / JE.	AC, Hall	Textbook of Medical Physiology 14 th edition	London: Elsevier	2020
	22.1.	2.	Dejanov Petrovsk Todorov	a S,	Physiology of certain systems	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2012
22.		3.	Costanzo	o LS.	Physiology	London: Elsevier	2006
		4.	Efremov et al.	rska Lj	Manual Physiology 1	Skopje: Ss Cyril and Methodius University, Faculty of Medicine	2012
		Additional	literature				
		Number	Aut	thor	Title	Publisher	year
	22.2.	1.	Widmaie Raff H, S		Vander's Human Physiology: The Mechanisma of Body Function	New York: McGraw- Hill Education	2013

Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	INTRODUCTION TO IN	MMUNOL	OGY		
2.	Code	MED 214				
3.	Study program	General Medicine				
4.	Institution (unit, institute,	Ss. Cyril and Methodius U	niversity in	Skopje, Skopje,	Faculty of	
	chair, department)	Medicine, Department for Immunology				
5.	Degree of education (first,	Integrated 6-years studies				
	second, third cycle)		1	1		
6.	Academic year/semester	Year	Second	Semester	Third (III)	
			(II)			
7	ECTS credits	3				
8.	Professor (when more	Assistant Prof. Meri Kirija	s, PhD, MD	- responsible pi	rofessor	
	professors, responsible	*Lectures held by all professors from the Department for				
	professor is assigned)	Immunology		_		

9.	Language of the study	English			
	Preconditions for	Preconditions for attending the classes: signature in Introduction to			
10	attending the classes and	human genetics.			
10.	taking the subject's exam	In order to take the final exam, the student should obtain the			
	••••••••••••••••••••••••••••••••••••••	minimum points from the two continual assessments			
11.	Subject program goals	Introducing the students with the basic terminology and			
	(competences) and study	concepts in immunology			
	results:	 Gaining basic knowledge in immunodeficiencies, 			
	i courto.	autoimmune disease and allergies			
		 Training of students for performing and interpretating 			
		results from immunodiagnostic procedures			
		 Connecting the basic immunology knowledge with clinical 			
		practice			
12.	Subject content in details	Theoretical course:			
	by chapters and units,	Overview of the Immune system			
	with study results for	 Cells, organs and microenvironments of the immune system 			
	every chapter	 Recognition and response 			
	- , - , r	 Innate immunity 			
		Innate immunityThe complement system			
		• The organization and expression of lymphocyte receptor			
		genes			
		• The major histocompatibility complex and antigen			
		presentation			
		• T-cell development			
		• B-cell development			
		• T-cell activation, helper subset differentiation and memory			
		• B cell activation, differentiation and memory generation			
		• Effector responses: antibody and cell-mediated immunity			
		Barrier immunity: the immunology of mucosa and skin			
		• The adaptive immune response in space and time			
		 Allergy, Hypersensitivities and chronic inflammation 			
		Tolerance, autoimmunity and transplantation			
		 Infectious diseases and vaccines 			
		Immunodeficiency disease			
		• Cancer and the immune system			
		Practical course:			
		• Methods for analyzing the function of phagocytes			
		• Methods for immunophenotyping (flow cytometry)			
		• Methods for protein assessment (nephelometry, CLIA,			
		immunoelectrophoretic analysis, ELISA, Dot blot, indirect			
		immunofluorescence, etc.)			
		• Methods for determination of hypersensitive reactions			
		Methods in transplantation immunology			
13.	Interconnection between	Related to all subjects in the study program			
	subjects	Signature provides attendance for Microbiology and parasitology 1			
		Passed subject provides attendance VII semester			

14.	subject's	on of the study and methods in		teaching during lectures, independent study by using practical exercises, seminars.			
15.	Total ava frame	ilable time	90 hours				
16.	Forms of	teaching	16.1.	Lessons – theoretical le	ssons, hours	24	
	activities	8	16.2.	Practical lessons (labora	atory, auditory),	21	
				seminars, team work: h			
			16.3.	Practice: hours			
	Other for	rms of activities	17.1.	Project tasks: hours			
17.			17.2.	Individual tasks: hours			
			17.3.	Studying at home: hour	S	45	
18.	Requiren	nents for	The student	is required to actively foll		ed	
	signature	•	activities.	1	1		
19.	Methods	of assessment					
	19.1.	Tests: points		Te Te			
	19.2.	Seminar paper/p points	roject, written	and oral presentation:	13	13-22	
	19.3.	Final exam: poir	nts		19-32		
20.	Grading c	priteria (points/grad	e)	Up to 59 points		5 (five) (F)	
	or and the second se		-)	From 60 to 68 points	6 (six) (E		
				From 69 to 76 points	7 (seven) (D		
				From 77 to 84 points	8 (eight) (
				From 85 to 92 points	9 (nine) (I		
				From 93 to 100 points		10 (ten) (A)	
21.	Methods	of monitoring the q	uality of the				
	teaching p		-	as well of the teachers t	hat participate.	-	
	Literatur	·e					
		Mandatory litera	ature				
		Number	Author	Title	Publisher	Year	
22.	22.1.	1.	Punt, Stranford, Jones, Owen	Kuby Immunology, 8 th edition	New York: W.H. Freeman	2019	
22.		2.	Teaching materials on English for students prepared by t department		dents prepared by th	ie	
		Additional litera	ture				
		Number	Author	Title	Publisher	year	
	22.2.	1.	Sompayrac L.	How the immune system works, 6 th edition	New York: Wiley Blackwell	2019	

Atta	ichment 3	Integrated o	ycle of studies – Subj	ect program				
1.	Subject	BIOSTATIS	STICS WITH MEDIC	CAL INFORMAT	FICS			
2.	Code	MED 215	MED 215					
3.	Study program	General Medicine						
4.	Institution (unit, institute,		Methodius University					
	chair, department)	Department informatics	of Epidemiology and b	piostatistics with m	nedical			
5.	Degree of education (first, second, third cycle)		Integrated 6 - year studies					
6.	Academic year/semester	Year Second (II) Semester Third (
7	ECTS credits	5						
8.	Professor (when more professors, responsible		Velic Stefanovska, MI ld by professors from t					
	professor is assigned)	and biostatis	tics with medical infor	matics				
9.	Language of the study	English						
	Preconditions for		s for attending the clas					
	attending the classes and		ke the final exam, the					
	taking the subject's exam		ints from the two conti					
			he student must pass th					
10			30% of total number o					
10.			ng the exams session t					
		exam.	iled continuous tests, a	and then shall take	e the final			
			ent of the subject is est	ablished accordin	a to the table of			
		The assessment of the subject is established according to the table of marks, based on the sum of points from all activities, continuous						
		tests and fina		ioni an activities,	continuous			
11.	Subject program goals		uiring knowledge of th	e basics of medica	al statistics.			
11,	(competences) and study		inology, measuring un		n statistics,			
	results:		uiring theoretical and p		ge of analyses			
		of st	atistical series through					
			stical methods.					
		-	uiring theoretical and p	-	-			
			ographic and vital stati	1	ntation of			
			ired knowledge in practical and a		a of the hearing			
			uiring theoretical and p epts and application of	•				
12.	Subject content in details		he study program:		105.			
	by chapters and units,		ne state program.					
	with study results for	Theoretical	course – Biostatistics:					
	every chapter		tive analysis (plan of st		methods of			
	J <u>-</u>		on, grouping and prese					
			s; analyses of structure					
		numerical characteristics; method of sampling)						
			tion of frequency and	· · ·	ation of			
			ers of samples; standar					
		-	esis $(t - test)$					
		• •	s of variance					
	1		X^2 - test					

 Regression analysis and linear correla Measures of correlation based on rank Non parameter tests – dependant samp Research of dynamics of occurrences Analyses of survival time Demographic statistics Vital statistics Theoretical course – Medical information Theoretical classes: Medical data, information and decision making; Health inform health records and Bionformatics. Praseminars, research assignments): Searching storage of medical data information a decision-making (diagnosis, treatment "HIS" (information processes identific classifications and nomenclature stand security); Bionformatics tools. Practical course: Relations, proportions, rates, indexes, Index of dynamics Modus and median Assessment of parameters of a sample Student t-test X² - test Correlation Assessment of proportions of the total a sample Linear trend of time series 	ted data ples cs - Medical informatics - ormation and knowledge; nation systems; Electronic ctical classes (practicals, g, retrieval, processing, and and knowledge; Medical selection, prioritization); ication, data structures, dardization, privacy and		
Linear trend of time series	graphic and vital		
statistics Medical informatics 			
13. Interconnection between Related to all subjects in the study program			
subjectsPassed subject provides attendance to subj14.Description of theInteractive teaching, practical course, semi	· · ·		
subject's study and working methods in details	Interactive teaching, practical course, seminars		
15.Total available time90 hoursframe90 hours			
	16.1. Lessons – theoretical lessons, hours 18		
activities 16.2. Practical lessons (laboratory, a	auditory), 27		
seminars, team work: hours 16.3.	27		
Other forms of activities 17.1. Project tasks: hours			
17. 17.1. 110jeet dasts. hours 17.2. Individual tasks: hours			

			17.3.	Studying at home: hours		45		
18	Require signatur	ments for e		To obtain a signature, the student needs to acquire minimum points from attendance at seminars, theoretical and practical courses.				
			Active part Theoretical Practical co		min 1- 5-			
19.	Methods	of assessment						
	19.1.	Tests: points			Continual asses term) consists of tests Points			
	19.2.	Seminar paper/pr	oject, written	Seminar work points min- ma				
	19.3.	Final exam: point	Ś		Oral part points min. – max. 36 - 52			
20.	Grading	criteria (points/gra	ade)	Up to 59 points		5 (five) (F)		
				From 60 to 68 points	6 (six) (E)			
				From 69 to 76 points	7 (seven) (D)			
				From 77 to 84 points	8 (eight) (C)			
				From 85 to 92 points From 93 to 100 points	9 (nine) (B)			
21.		s of monitoring the ning process re	quality of	Anonymous evaluation by teaching staff, and associate teaching.				
	Mandatory literature							
		Number	Author	Title	Publisher	Year		
22.	22.1.	1.	Altman DG.	Practical statistics for medical research	London: Chapman & Hall	2018		
22.		Additional literatu	re		·			
		Number	Author	Title	Publisher	year		
	22.2.	1.	Kirkwood BR, Sterne JAR.	Medical Statistics	New York: Wiley- Blackwell	2010		

Nur	nber: 20	
Attachment 3		Integrated cycle of studies – Subject program
1.	Subject	BIOCHEMISTRY 2
2.	Code	MED 221
3.	Study program	General Medicine

4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Biochemistry and Clinical Biochemistry					
5.	Degree of education (first, second, third cycle)	Integrated	Integrated 6-year studies				
6.	Academic year/semester	Year	Second (II)	Semester	Fourth (IV)		
7	ECTS credits	5.5					
8.	Professor (when more professors, responsible professor is assigned)	*Lectures and Clinica		ska, PhD, MD - respons ors from the Departmen	1		
9.	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	To take the	Preconditions for attending the classes: Signature from Biochemistry 1. To take the final exam, the student has to fulfill the tasks for the signature and pass the written exams.				
11.	Subject program goals (competences) and study results:	 To (ca fin im To ox To an To To To To To 	 (carbohydrates, proteins, and lipids) and the catabolism to the final products and to understand the regulation of the most important biochemical pathways; To understand the role of ATP in the body and the biological oxidation; To understand the respiratory chain, oxidative phosphorylation, and ATP synthesis. To understand the metabolism of hemoglobin; To learn about the digestion and absorption of nutrients; 				
12.	Subject content in details by chapters and units, with study results for every chapter	 Ma pe Tr Ma ma syn Pra of ess ma Int 	eneral metabolism; etabolism of carbo ntose-phosphate c icarboxylic acid c etabolisam of lipic etabolism of keton nthesis, phospholi otein metabolism, the carbon chain of	hydrates: glycolysis glu ycle, glycogenesis, glyc ycle, oxidative decarbox ds, beta-oxidation of the e bodies, fatty acids sym pids, glycolipids, choles the fate of nitrogen, urea of the amino acids, synth s, amino acid derivates, bolic pathways;	ogenolysis; ylation of pyruvate; fatty acids, thesis, cholesterol sterol catabolism; a synthesis, the fate nesis of the non-		

Interconnection between subjects Description of the subject's study and working methods in details Total available time frame Forms of teaching activities Other forms of activities Requirements for signature	 Quate 4 – uring Related to a Passed subject Classroom-training, set 165 165 16.1. 16.2. 16.3. 17.1. 17.2. 17.3. To get a sign to be a sign to be	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr	roteins in t, practical 36 39 90 ned, the			
between subjects Description of the subject's study and working methods in details Total available time frame Forms of teaching activities Other forms of	 Quate 4 – uring Related to a Passed subjic Classroom-training, set 165 165 16.1. 16.2. 16.3. 17.1. 17.2. 	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating prime. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work minar paper, laboratory work, studying at home Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours Project tasks: hours Individual tasks: hours	roteins in a, practical 36 39			
between subjects Description of the subject's study and working methods in details Total available time frame Forms of teaching activities Other forms of	 Quate 4 – Quate 4	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating prime. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work minar paper, laboratory work, studying at home Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours Project tasks: hours	toteins in t, practical 36			
between subjects Description of the subject's study and working methods in details Total available time frame Forms of teaching activities	Qua 4 – urin Related to a Passed subj Classroom- training, ser 165 16.1. 16.2. 16.3.	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating prime. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work minar paper, laboratory work, studying at home Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	toteins in t, practical 36			
between subjects Description of the subject's study and working methods in details Total available time frame Forms of teaching	Qua Qua 4 – urin Related to a Passed subj Classroom- training, ser 165 16.1. 16.2.	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating prime. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work minar paper, laboratory work, studying at home Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work: hours	toteins in t, practical 36			
between subjects Description of the subject's study and working methods in details Total available time frame Forms of teaching	Qua Qua 4 – urin Related to a Passed subj Classroom- training, sen 165 16.1.	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr ne. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work minar paper, laboratory work, studying at home Lessons – theoretical lessons, hours	toteins in t, practical 36			
between subjects Description of the subject's study and working methods in details Total available time frame	• Qua • 4 – urin Related to a Passed subj Classroom- training, sen 165	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr ne. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work minar paper, laboratory work, studying at home	roteins in			
between subjects Description of the subject's study and working methods in details	Quantization Q	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr ne. all subjects in the study program ect provides attendance to VII semester oriented lectures, interactive lectures, group work	oteins in			
between subjects	• Qua • 4 – urin Related to a Passed subj	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr ne. all subjects in the study program ect provides attendance to VII semester	oteins in			
	• Qua • 4 – urin Related to a	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr ne. all subjects in the study program				
	• Qua • 4 – urir	alitative and quantitative analyses of urine sample 20 % SDS-PAGE as a technique for separating pr ne.				
	• Qu	alitative and quantitative analyses of urine sample				
		•	s:			
	Quantification of electrolytes in human serum;					
	-	· ·	man serum;			
		•				
	• Qua	antification of glycogen;				
			μ, anα			
			DL and			
			nine in			
		•				
		•				
			,			
			5.			
			ΓP synthesis.			
		 Res Nu Ele Bio three Bio Bio	 Respiratory chain, oxidative phosphorylation, and A[*] Nutrition; Electrolytes and acid-base balance; Biochemical processes in the erythrocytes, leucocytes thrombocytes, and hemostasis. Biochemistry of the liver; Biochemistry of the nervous system; Biochemistry of the nervous system; Biochemistry of the bone tissue; Biochemistry of the bone tissue; Free radicals and metabolism of xenobiotics. Practical course: Quantification of the urea, acidum uricum, and creati human plasma and urine samples; Quantification of glycogen; Quantification of enzyme activity of AST/ALT in human serum; 			

		The final score is formed according to the table from the score of total planned activities taken into account.					
19.	Method	s of assessmen		ivities taken into account.			
17.	19.1.	Tests: point			Test 1 minm	ax. 12-20	
	19.2.	Seminar pa presentation		ritten and oral	Theoretical course minmax. 1-3 Practical course minmax. 10-12		
					Seminar paper minmax. 1-5		
	19.3.	Final exam	: points		Practice Final Exam minmax. 9-15 Final oral exam minmax. 27-45		
20.	Grading criteria (points/grade)			Up to 59 points From 60 to 68 points From 69 to 76 points From 77 to 84 points From 85 to 92 points	5 (five) (F 6 (six) (E 7 (seven) (D 8 (eight) (C 9 (nine) (B		
21.		s of monitorin of the teaching re		From 93 to 100 points Anonymous student eval collaborators involved in			
		Mandatory	literature				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Merey RK, and all.	Harper's Illustrated Biochemistry, 28th Edition	Chicago: MC Graw Hill	2009	
22.		2.	Nelson DL, Cox M	Lehninger Principles of Biochemistry, 7th Edition	New York: W. H. Freeman	2017	
		Additional	literature				
		Number	Author	Title	Publisher	year	
	22.2.	1.	Lieberman M	Mark's Basic Medical Biochemistry	New York: Lippincott Williams & Wilkins	2013	

Attachment 3		Integrated cycle of studies – Subject program
1.	Subject	PHYSIOLOGY 2
2.	Code	MED 222

3.	Study program	General Medicine	General Medicine			
4.	Institution (unit, institute,	Ss Cyril and Methodius U	Jniversity in Sk	opje, Faculty	of Medicine,	
	chair, department)	Department of Physiolog	•	15 / 5	,	
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year	Second (II)	Semester	Fourth (IV)	
7	ECTS credits	6				
8.	Professor (when more	Prof. Beti Dejanova, PhD	, MD - respons	sible professor		
	professors, responsible	*Lectures held by all pro	fessors from the	e Department		
	professor is assigned)			_		
9.	Language of the study	English				
	Preconditions for attending	Preconditions for attending	ng the classes: s	signiture gaine	d from	
10.	the classes and taking the	Physiology 1.				
10.	subject's exam	In order to take the final of	exam, the stude	nt should obta	in the	
		minimum points in the th	ree continual a	ssessments.		
11.	Subject program goals	• To understand t	he regulatory sy	ystems of the l	human body	
	(competences) and study	 To define nervo 	us system funct	tions and to ur	nderstand its	
	results:	regulatory main	tenance			
		 To clarify sense 			ecial senses:	
		vision, hearing,				
		To define endo		nctions, and to	understand	
		its regulatory m				
		• To clarify the re				
		body systems w				
		 To predict and u 				
		regulatory syste	ms in physiolo	gical condition	ns	
12.	Subject content in details by	Theoretical course:				
	chapters and units, with study	 Physiology of n 				
	results for every chapter	synapses, neuro				
		Physiology of m				
		brainstem, spina			exes,	
		Physiology of a		•		
		Physiology of s				
		pathways, sense	•		·	
		touch and positi				
		sense of equilibrium	rium, sense of t	aste, sense of	smell, sense	
		of pain			1£	
		Physiology of the lympic system of the lympic				
		lymbic system a sleeping, intelec			y 01	
		1 0		•	ion of the	
		Endocrine phys hormones; Phys				
		pituitary, thyroi				
		and endocrine p		aurenai, Ovalie		
			and cas.			
		Practical lessons:				

13.	Interconn subjects	ection between	 Examination of the peripheral nervous system: excitability and conduction. Experimental examination of reflexes. Performing clinically important reflexes Performing method of brain activity Examination of autonomic nervous system functioning Testing senses for vision, sound, equilibrium, taste and smell Examination of endocrine system functions in experimental animals Related to all subjects of the faculty. Signature from this subject provides attendance for following subjects: Microbiology and parasitology 2, Pathology 1. Passed exam provides attendance for following subjects: Clinical examination 2, Pharmacology, Transfusiology, Pathology 2 			d	
14.	Descriptio	on of the subject's	Interactive lectures of theoretical and practical teaching,				
		working methods in					g by
	details	_	virtual models and videos.				
15.		ilable time frame	180				4.5
16.	Forms of	teaching activities	16.1. 16.2.	Lessons – theoretical lessons	,		45
			16.2.	Practical lessons (laboratory, seminars, team work: hours	auditory),		45
			16.3. Practice: hours				
	Other for	ms of activities	17.1. Project tasks: hours				
17.			17.2. Individual tasks: hours				
						90	
18.	Requirem	ents for signature	The stude	ent has to obtain minimum poi	nts for each co	ourse	
			attendanc				
				points	m		
				cal course attendance course attendance		1 3 8 1	
	Methods	of assessment	Flactical	course allendance	(0 1	1
	19.1.	Tests: points					
		1 cour pointe				min	max
					Test I	12	20
					Test II	12	20
	10.2		· ·,,	1 1 4 4 4 4 4 4	Test III	12	20
	19.2.	Seminar paper/projec	t, written a	nd oral presentation: points	Seminar	min 1	max 3
	19.3.	Final exam: points				min	max
					Final exam	14	23
20.	Grading	riteria (points/grade)		Up to 59 points		5 (five) (F)
	3	· · · · ·		From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven)	
				From 77 to 84 points		8 (eight)	
				From 85 to 92 points		9 (nine)	
				From 93 to 100 points		10 (ten)) (A)

21.		Methods of monitoring the quality of the teaching process			Checking the student's attendance and student's anonymous evaluation of the teaching process		
	Literatu	re			· •	~ ~ ~	
		Mandatory li	terature				
		Number	r	Author	Title	Publisher	Year
	22.1.	1.	Guytor Hall JE	,	Textbook of Medical Physiology 14 th edition	London: Elsevier	2020
		2.	Costanzo LS.		Physiology	London: Elsevier	2006
22.		3.	Malesk al.	ka V, et	Manual Physiology 2	Ss Cyril and Methodius University, Faculty of Medicine	2012
		Additional literature					
		Number	Aı	uthor	Title	Publisher	year
	22.2.	1.	Widma Raff H K.	· · ·	Vander's Human Physiology: The Mechanisma of Body Function	New York: McGraw-Hill Education	2013

	Number.22						
Atta	ichment 3	Integrated cycle of studies – Subject program					
1.	Subject	PATHOPHYSIOLOGY	1				
2.	Code	MED 223	MED 223				
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodius U	niversity in Sl	kopje, Faculty c	od Medicine,		
	institute, chair,	Department of Pathophysi	iology and Nu	clear Medicine			
	department)						
5.	Degree of education	Integrated 6-year studies					
	(first, second, third						
	cycle)						
6.	Academic	Year	Second (II)	Semester	Forth (IV)		
	year/semester						
7	ECTS credits	7					
8.	Professor (when	Prof. Venjamin Majstorov	, MD, PhD - 1	responsible pro	fessor		
	more professors,	*Lectures held by the prof	fessors from th	ne Department o	of		
	responsible professor	Pathophysiology and Nuc	lear Medicine				
	is assigned)						
9.	Language of the	English					
	study						
10.	Preconditions for	Preconditions for attendin					
10.	attending the classes	In order to take the final e	xam, the stude	ent should obtai	in the minimum		

11.	and taking the subject's exam Subject program goals (competences) and study results:	 points in the two continual assessments. If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam. Object and methods of pathophysiology (etiology and pathogenesis of the diseases with experimental and clinical methods) General mechanisms of compensation and decompensation in disorders caused by the pathological influences of external factors Factors of the general reactivity and the immunity, their disorders and relationship with external medium Mechanisms of initiation and manifestation of pathological situations with general functional disturbances Mechanisms of metabolic disorders 			
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Health, disease, death; etiology and pathogenesis, compensation, decompensation, sufficiency, insufficiency Pathogenic influence of the environmental (external) factors (physical, chemical, biological and psychical factors) General reactivity and immunity, inheritance and environment Disorders of innate immunity (complement, phagocytosis, interferon) Disorders of adaptive immunity, hypersensitivity, immunodeficiency, autoimmunity, transplant reaction Disturbances in pathological situations with general functional disorders (hypoxia, fever, fatigue, peripheral circulatory disorders), pathophysiology of the geriatric diseases Disorders of the energetic metabolism and of the protein, carbohydrate, lipid, water, electrolyte and vitamin metabolism 			
13.	Interconnection between subjects	Related to all subjects in the study program Signature from this subject provides attendance for following subjects: Pathophysiology 2, Microbiology and parasitology 2, Pathology 1, Clinical examination 1. Passed subject provides attendance to following exams: Pathophysiology 2, Clinical examination 1 and 2.			
14.	Description of the subject's study and working methods in details	Interactive teaching during lectures and practical trainings, independent study by using textbooks, practical exercises, computer-assisted learning.			
15.	Total available time frame	210 classes			
16.	Forms of teaching activities	16.1.Theoretical lessons, hours45classes			

			16.2.	Practical course (laboratory, auditory seminars, team work: hours	r), 60 classes
			16.3.	Practice: hours	
	Other for	ms of	17.1.	Project tasks: hours	
17.	activities		17.2.	Individual tasks: hours	
			17.3.	Studying at home: hours	105
18.	Requiren		The stude	ent is required to actively follow all of the	planned activities.
19.	signature Mathada	of assessme			
19.	19.1.	Tests: poir			min – max
				 H etiolo comp decor suffic Patho envir facto and in in the cond funct Di ar 	l assessment – 2 tests ealth, disease, death; ogy, pathogenesis, pensation, mpensation, ciency, insufficiency. ogenic influences of the onmental (external) rs; General reactivity mmunity; Disturbances e course of pathological itions with general ional disorders 18 - 30 points sorders of metabolism ad peripheral rculation
					18 - 30 points
	19.2.	Seminar pa presentation		written and oral	
	19.3.	Final exan		examinat Final test: experimen disorders Oral exam for the ap	analysis of ntal models or tests for

					Completion exam of the failed tests of form) plus final te oral exam Full exam - comb two failed tests plu final oral exam Active participation Theoretical course (% of presence) • min.30% • 31-70% • 71-100%	(in written st and final bination of the us final test and on: points 1 - 5 1 point 2 points 5 points	
20.	Grading	 criteria (poi	nts/grade)	Up to 59 points	Practical course	11 - 15 5 (five) (F)	
20.	Grauing	criteria (por	11.5/ gi aut j	From 60 to 68 points		$\frac{5(\text{IIVC})(\Gamma)}{6(\text{six})(\text{E})}$	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points	8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)	
				From 93 to 100 points		10 (ten) (A)	
21.			ng the quality	Anonymous evaluation by the students for the teaching			
		iching proce	SS	staff.			
	Literatur						
		Mandatory					
	22.1.	Number	Author	Title	Publisher	Year	
		1.	McPhee SJ, Ganong WF.	Pathophysiology of disease. An introduction to clinical medicine	New York: Langee medical Books/McGraw- Hill	2003	
		Additional	literature			I	
		Number	Author	Title	Publisher	year	
22.	22.2.	1.	Vaskova O, Miceva Ristevska S, Pop Gjorceva D, Miladinova D, Loparska S, Majstorov V.	General pathological physiology	Skopje: RC Copy	2013	

2.	Vaskova O, Miceva Ristevska S, Pop Gjorceva D, Miladinova D, Loparska	Practical course for general and special pathological physiology	Skopje: Boro Grafika	2013
	S.			

Numb	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	MICROBIOLOGY AND PARASITOLOGY 1	Integrated cycle of studies – Subject program MICROBIOLOGY AND PARASITOLOGY 1				
2.	Code	MICROBIOLOGY AND PARASITOLOGY 1 MED-224					
3.	Study program	MED-224 General Medicine					
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Faculty of Medicin	ne				
	chair, department)	Department of Microbiology and parasitology					
5.	Degree of education (first,	Integrated 6-year studies					
	second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year Second (II) Semester I	Fourth (IV)				
7	ECTS credits	4					
8.	Professor (when more	Associate Prof. Maja Jurhar Pavlova, PhD, MD - responsible pro	ofessor				
	professors, responsible	*Lectures held by the professors from the Department of					
	professor is assigned)	of Microbiology and parasitology					
9.	Language of the study	English					
	Preconditions for attending	Passed exam: Cell morphology and physiology					
	the classes and taking the	Signature: Introduction to Immunology					
10.	subject's exam	In order to take final exam, the student has to win a minimum of 60% of					
10.		the two continual assessment tests					
		The minimum passing score for the final examination is 60% ou	it of the				
		total points					
11.	Subject program goals	• Introducing students with the world of microorganisms,					
	(competences) and study	To acquire knowledge about different types of microorg	anisms,				
	results:	studying their morphology and physiology,					
		• To become familiar with the prevalence of microorgani					
		different eco systems and their mutual associations, incl	uding the				
		normal microflora of the host,					
		To study the genetics of microorganisms, To single and have been the second state of the second s	•				
		• To gain knowledge about the virulence factors of microo					
		and to penetrate in more detail into the pathogenesis of infections they cause,	the				
		 To acquire skills for performing successful and accurate 	a				
		microbiological diagnosis in various infections condition	ng				
		 To acquire skills for performing the methods of testing 					
		sensitivity of etiological agents to antibiotics, which is a					
		important prerequisite for successful therapy (of excepti					
		importance for their future medical practice)	11WI				
L							

		 To gain comprehensive understanding of microorganisms and their role in the field of medicine To develop communication and critical thinking as essential skills in microbiology Comprehensive Interpret of results of different microbiological analyses Application of microbiological methods to different laboratory and clinical situations Ability to communicate and collaborate with other disciplines in microbiological context Properly prepare and view specimens for examination using microscopy Identification of microorganism by implementing adequate methods
		• Practice safety in microbiological laboratory, by implementation
12.	Subject content in details by chapters and units, with study results for every chapter	of different protective procedures.Theoretical course:• Introduction to Microbiology• Morphology and structure of microorganisms• Physiology of microorganisms• Genetics of microorganisms• Genetics of physical and chemical factors on microorganisms• Distribution of microorganisms and interactions• Pathogenicity of microorganisms and pathogenesis of infections• Basic principles of microbiological diagnosisPractical course:• Purpose and methods of work in the microbiological laboratory• Microscopic examination of microorganisms• Isolation and cultivation of microorganisms• Examination of the biochemical activity of microorganisms• Sterilisation and disinfection• Application of serological reactions in laboratory diagnostics• Techniques to investigate the antimicrobial affectProper sampling, transporting and processing of samples for microbiological examination
13.	Interconnection between	Related to all subjects in the study program
	subjects	Signature from this subject provides attendance for following subjects: Microbiology and parasitology 2 and Clinical examination 1 Passed subject provides attendance to following exams: Microbiology and parasitology 2.
14.	Description of the subject's study and working	Interactive theoretical teachingIndependent learning
	methods in details	 Exercises/Seminars Learning based on the problems and their solving Independent analysis of microscopic preparations, bacterial cultures, biochemical reactions for identification of bacteria Independent interpretation of microbiological results with special view of the selection of the appropriate antibiotic in the therapy of infections

			Seminars: SI SI m Ba	on of seminars accompani pecifics in the morphology icroorganisms asic principles of microbic	and physiology	
15.		ailable time frame	120	T .1 .* 11	1	20
16.	Forms of	f teaching activities	16.1.	Lessons – theoretical les	,	30
			16.2.	Practical lessons (labora auditory), seminars, tear		30
			16.3.	Practice: hours	II WOIK. HOUIS	
	Other fo	rms of activities	17.1.	Project tasks: hours		
17.	0 0000 10		17.2.	Individual tasks: hours		
			17.2.	Studying at home: hours	1	60
18.	Require	ments for signature	In order to get a sig	gnature, the student must a at least 70% of the points	attend theoretical	
19.	Methods	of assessment	1			
	19.1.	Tests: points			First continual a (20 points) Second continua (30 points)	
	19.2.	Seminar paper/pro	ject, written and ora	l presentation: points	Power point pro the seminar wor of samples, pro cases, analysis microbiological points)	rk (processing cessing of of
	19.3.	Final exam: points			Oral examination	on (34 points)
	19.4.	Active participatio	n: points		Theoretical course (3 points) Practical course (10 points)	
20.	Grading	criteria (points/grad	le)	Up to 59 points		5 (five) (F)
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points	7 (seven) (D)	
				From 77 to 84 points		$\frac{8 \text{ (eight) (C)}}{2 \text{ (cight) (C)}}$
				From 85 to 92 points	9 (nine) (B)	
21.	teaching	•	uality of the	From 93 to 100 points10 (ten) (A)Anonymous evaluation by students on the subject, teaching staff and associates participating in the teaching		
	Literatu	re				
		Mandatory literat	ure			
		Number	Author	Title	Publisher	Year
22.	22.1.	1.	Brooks G, Karen C. Carroll KC, Butel J, Morse S, Meizner T.	Jawetz, Melnick & Adelberg's Medical Microbiology – 26 th Edition	Chicago: McGraw-Hill Education / Medical	2012

	2.	Greenwood D, Slack RCB, HHBarer Mr, Irving ML	Medical Microbiology: With STUDENTCONSULT online access (Greenwood,Medical Microbiology) 18 th Edition	Churchill Livingstone	2012		
	3.	Gary W. Procop, Deirdre L. Church, Geraldine S. Hall; William M. Janda; Elmer W. Koneman; Paul C. Schreckenberger;	Koneman's Color Atlas and Textbook of Diagnostic Microbiology 7th Edition	Jones & Bartlett Learning	2016		
	Additional literature						
	Number	Author	Title	Publisher	year		
22.2.	1.	Department's Teachers	Authorized lectures from the Department of microbiology and parasitology				

-	achment 3	Integrated cycle of s	tudies – Subject prog	ram			
1.	Subject	HYGIENE	HYGIENE				
2.	Code	MED-225					
3.	Study program	General medicine					
4.	Institution (unit,	Ss Cyril and Methodi	us University in Skopje	e, Faculty of M	edicine,		
	institute, chair,	Department of Hygier	ne				
	department)						
5.	Degree of education	Integrated 6-year stud	lies				
	(first, second, third						
	cycle)						
6.	Academic	Year	Second (II)	Semester	Fourth (IV)		
	year/semester						
7	ECTS credits	5	5				
8.	Professor (when	Prof. Gordana Ristovska PhD, MD, - responsible professor					
	more professors,	*Lectures held by the	*Lectures held by the professors from the Department of Hygiene				
	responsible						

	6 :						
	professor is						
•	assigned)						
9.	Language of the	English					
	study						
	Preconditions for	Preconditions for attending the classes: None					
10.	attending the	The student has to win a minimum points of the continual assessments 1					
	classes and taking	and 2, after that he/she can approach to the final exam.					
	the subject's exam	Adoption of the knowledge, skills, and basic principles of environmental					
11.	Subject program						
	goals (competences)	health, health risk assessment of air pollution, climate change, drinking					
	and study results:	water and surface water pollution, ionising and non ionising radiation, environmental noise, environmental health aspects of school environment, heaving and health agree institutions, health risks associated with unsefe					
		housing and health care institutions, health risks associated with unsafe					
		food and unhealthy diet.					
12.	Subject content in	Theoretical course:					
12.	details by chapters	• Ecological concept of health, ecotoxicology, risk assessment and					
	and units, with	preventive measures					
	study results for	Environmental health					
	every chapter	Air pollution, adverse health effects and preventive measures					
	every enupter	 Climate change and health 					
		 Environmental health aspects of drinking water and water supply 					
		 Environmental health aspects of surface and waste waters 					
		 Environmental health aspects of the waste, with particular 					
		emphases on medical waste					
		 Physical factors – ionising and non-ionising radiation, 					
		environmental noise					
		Environmental health aspects of chemicals- persistent organic					
		pollutants and metals					
		 Environmental health aspects of school environment and 					
		characteristics of the school children morbidity					
		• Environmental health aspects housing, settlements and health care					
		institutions					
		Preparedness and response in emergency and crisis: rapid detection					
		and elimination of the environmental risks					
		Food safety and nutrition					
		• Food safety and food borne diseases with preventive measures,					
		Macronutrients and micronutrients, basic principles for healthy					
		diet and dietotherapy					
		Practical course:Methodology for monitoring of air pollution and health statistics					
		methods for monitoring of adverse health effects;					
		 Climate change and current national policies for reducing adverse 					
		health effects;					
		 Drinking water and monitoring of drinking water safety; 					
		 Ionizing and non ionising radiation and health risk assessment; 					
		 Environmental noise monitoring and mapping, health risk 					
		assessment					

			 question Manager Biologic measures Methods methods 	ygiene: implementation and interpretation of v naire for hygiene in school environment; ment of medical waste and related potential ha al and chemical food contamination and preve s, national policy for reducing foodborne dise for nutrition status assessment of the population for determination of nutritive value of meals hing nutrition for different population groups	nzards; entive ases; ion groups,
13.	Interc	onnection	Related to all sub	jects in the study program	
	betwe	en subjects	Passed subject pr	rovides attendance to VII semester.	
14.	subjeo worki details			eractive approach; Practical lessons	
15.	Total frame	available time	150 hours		
16.		s of teaching	16.1.	Lessons – theoretical lessons, hours	30
	activit		16.2.	Practical lessons (laboratory, auditory),	45
				seminars, team work: hours	
			16.3.	Practice: hours	
		forms of	17.1.	Project tasks: hours	
17.	activit	ties	17.2.	Individual tasks: hours	
			17.3.	Studying at home: hours	75
18.	signat		order to score mir requirements for Theoretical cours 100% presence - 80% presence - 4 60% presence - 3 50% presence - 2 40% presence - 1 Practical course : Presence at 11 ep Presence at 10 ep Presence at 9 exe Presence at 8 exe the exercises he/s	 a participate at the theoretical and practical conninum points to obtain signature. The minime that are as follows: 5 points 9 po	um d for some of
19.	Metho	ods of assessme	nt		
	19.1.	Tests: points	Continuous testir 1. Environmenta 2. Food Safety an	1 health 21 35	

	19.2.	Seminar paper/project, written and oral presentation: points	/						
	19.3.	Final exam:	Oral exam (integr						
		points	from min 15 to ma It is a compulsory	y part of the exam consistin	g of 2 questions				
				ive knowledge that is essen		nding the			
			U	nental health and the preve		8			
				win a minimum points of		at 2, after that			
				ich to the final exam. Other	rwise				
20	Credi		the exam is consid	Up to 59 points	1	5 (fina) (F)			
20.	Grad	ing criteria (poi	nts/grade)	From 60 to 68 points		5 (five) (F) 6 (six) (E)			
				From 69 to 76 points		7 (seven) (D)			
				From 77 to 84 points		$\frac{1}{8}$ (eight) (C)			
				From 85 to 92 points		9 (nine) (B)			
				From 93 to 100 points		10 (ten) (A)			
21.			ng the quality of	Anonymous student's evaluation of the subject, teachers					
		aching process		and collaborators involve	ed in the education	nal activities.			
	Literature								
		Mandatory literature							
	22.1.	Number	Author	Title	Publisher	Year			
		1.	Tulchinsky T, Varavikova E.	The New Public Health, 3rd Edition	New York: Elsevier	2015			
		2.	Wallace/Maxcy- Rosenay-Last	Public Health & Preventive Medicine	Chicago: The Mc Graw- Hill Companies. Inc	2008			
22.		3.	Kochubovski M, Ristovska G, Spiroski I, Petrova A.	Manual for hygiene and Henvironmental health	Skopje, Faculty of Medicine	2021			
		Additional liter	rature						
		Number	Author	Title	Publisher	year			
		1.	De Bruyne L, Pinna K.	Nutrition for health and health care	Boston: Cengage	2020			
	22.2.	2.	WHO Regional Office for Europe	A healthy environment in the WHO European Region: why it matters and what steps we can take to improve health.	Copenhagen: WHO Regional Office for Europe	2023			

	3.	Food	and	Climate change:	FAO	2020
		Agriculture		Unpacking the burden		
		Organization	l	on food safety.		

Numb Atta	achment 3	Integrated cycle of	studies – Subject j	orogram	
1.	Subject	BASICS IN SCIENTIFIC WORK			
2.	Code	MED 226			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss Cyril and Method Department of Interr		kopje, Faculty od Me	edicine,
5.	Degree of education (first, second, third cycle)	Integrated 6-year stu	dies		
6.	Academic year/semester	Year	Second (II)	Semester	Fourth (IV)
7.	ECTS credits	1.5			
8.	Professor (when more professors, responsible professor is assigned)	Prof.Ljubica Georgie *Lectures held by th	· · · · · · · · · · · · · · · · · · ·	1 I	
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: finished first year.In order to take the exam the student needs to score a minimum of poinfrom attending theoretical and practical classesmin – maxTheoretical coursePractical course6-12 pointsPractical course6-12 points			
11.	Subject program goals (competences) and study results:	 The essence and meaning of scientific research and the principles of the scientific method The components of the research process and their understanding Finding sources for a scientific research project and acquiring basic knowledge for a critical review of tchem The basic principles of research ethics, teamwork and the meaning of authorship The basic procedures and rules for the preparation, publication and/or presentation of the results of scientific research Evidence-based medicine and its application 			
12.	Subject content in	Theoretical course:			
	details by chapters and units, with	Introduction	n to the subject, obl	igations, expectation - what is it, history, r	

	study res	ults for	princip	oles			
	every ch			nology in science, types of e	evidence, strength of		
		•		mendations	, 6		
			• Design	n of a scientific research pro	oject		
				biomedical databases	5		
				in scientific research work	and responsible beha	vior in	
			science		1		
			• Scient	ific paper construction and	preparation for public	cation, style,	
				ge and presentation		, , ,	
			Critica	al assessment of parts of a se	cientific paper		
				nce-based medicine and its			
			Practical cours				
			Exercise 1. How	w to choose a topic for scier	ntific research work, s	searching	
				the Internet by keywords, for		_	
				ics in science - panel discus		examples	
			u U	nflict of interest, copyright	1 /		
				nning and organizing scient		se on a given	
				ial reference to material and		1	
				ts of the paper: Critical revie		paper (title,	
				l and methods, results, disc			
				Exercise 5. Paper presentation on assigned material Related to all subjects in the study program			
13	Intoroon	nootion			1		
13.	Intercon between		Related to all su Passed subject	provides attendance to VII.	1 semester		
	between	subjects	Passed subject	provides attendance to VII s	n semester.		
13. 14.	between Descript	subjects ion of the	Passed subject	provides attendance to VII s hing, exercises, discussion	1 semester.		
	between Descript subject's	subjects ion of the study	Passed subject	provides attendance to VII s	n semester.		
	between Descript subject's and wor	subjects ion of the study	Passed subject	provides attendance to VII s	n semester.		
	between Descript subject's and wor	subjects ion of the study king in details	Passed subject	provides attendance to VII s	n semester.		
14.	between Descript subject's and worl methods	subjects ion of the study king in details ailable	Passed subject	provides attendance to VII s	1 semester.		
14.	between Descripti subject's and worl methods Total ava time fram	subjects ion of the study king in details ailable	Passed subject Interactive teac 45 hours 16.1.	provides attendance to VII s	semester.	10+2	
14. 15.	between Descripti subject's and worl methods Total ava time fram	subjects ion of the study king in details ailable ne f teaching	Passed subject	provides attendance to VII s hing, exercises, discussion	semester.	10+2	
14. 15.	between Description subject's and work methods Total ava time fran Forms of	subjects ion of the study king in details ailable ne f teaching	Passed subject Interactive teac 45 hours 16.1. 16.2.	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: ho	sons, hours ory, auditory),		
14. 15.	between Description subject's and work methods Total ava time fran Forms of	subjects ion of the study king in details ailable ne f teaching	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3.	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat	sons, hours ory, auditory),	10+2	
14. 15. 16.	between Descripti subject's and worl methods Total ava time fran Forms of activities	subjects ion of the study in details ailable ne f teaching	Passed subject Interactive teac 45 hours 16.1. 16.2.	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: ho	sons, hours ory, auditory),		
14. 15.	between Descripti subject's and work methods Total ava time fran Forms of activities	subjects ion of the study in details ailable ne f teaching	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3.	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: ho Practice: hours	sons, hours ory, auditory),		
14. 15. 16.	between Descripti subject's and worl methods Total ava time fran Forms of activities	subjects ion of the study in details ailable ne f teaching	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3. 17.1.	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: ho Practice: hours Project tasks: hours	sons, hours ory, auditory),		
14. 15. 16.	between Descripti subject's and work methods Total ava time fran Forms of activities	subjects ion of the study in details ailable ne f teaching	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3. 17.1. 17.2. 17.3.	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: ho Practice: hours Project tasks: hours Individual tasks: hours	sons, hours ory, auditory), urs	18	
14. 15. 16. 17.	between Description subject's and work methods Total avatime fran Forms of activities Other for activities Requirent signature	subjects ion of the study king in details ailable ne f teaching rms of nents for	Passed subject Final Section 11 Section 12 S	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: ho Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours	sons, hours ory, auditory), urs eds to score a minimu	18	
14. 15. 16. 17.	between Description subject's and work methods Total avatime fran Forms of activities Other for activities Requirent signature	subjects ion of the study king in details ailable ne f teaching rms of nents for	Passed subject Final Section 11 Section 12 S	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee	sons, hours ory, auditory), urs eds to score a minimu	18	
14. 15. 16. 17. 18.	between Description subject's and work methods Total avatime fran Forms of activities Other for activities Requirent signature	subjects ion of the study king in details ailable ne f teaching rms of nents for	Passed subjectInteractive teac45 hours16.1.16.2.16.3.17.1.17.2.17.3.In order to getfrom attendingent	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee	sons, hours sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after	18 15 m of points the practical	
14. 15. 16. 17. 18.	between Descripti subject's and worl methods Total ava time fran Forms of activities Other for activities Requiren signature Methods	subjects ion of the study king in details ailable ne f teaching rms of rents for e of assessm Tests: po	Passed subjectInteractive teac45 hours16.1.16.2.16.3.17.1.17.2.17.3.In order to getfrom attendingent	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee theoretical and practical cl	sons, hours ory, auditory), urs eds to score a minimu lasses.	18 15 m of points the practical	
14. 15. 16. 17. 18.	between Description subject's and work methods Total avaitime fran Forms of activities Other for activities Requirensignature Methods 19.1.	subjects ion of the study king in details ailable ne f teaching rms of rms of nents for e of assessm Tests: po	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3. 17.1. 17.2. 17.3. In order to get from attending ent ints	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee theoretical and practical cl	sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after teaching Min 23-	18 15 m of points the practical	
14. 15. 16. 17. 18.	between Description subject's and work methods Total avaitime fran Forms of activities Other for activities Requirensignature Methods 19.1.	subjects ion of the study king in details ailable ne Teaching rms of nents for e of assessm Tests: po Seminar presentat	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3. 17.1. 17.2. 17.3. In order to get from attending ent ints	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee theoretical and practical cl	sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after teaching Min 23-	18 15 m of points the practical Max 38	
14. 15. 16. 17. 18.	between Descripti subject's and work methods Total ava time fran Forms of activities Other for activities Requiren signature Methods 19.1.	subjects ion of the study king in details ailable ne Teaching rms of nents for e of assessm Tests: po Seminar presentat	Passed subjectInteractive teac45 hours16.1.16.2.16.3.17.1.17.2.17.3.In order to getfrom attendingentintspaper/project, writion: points	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee theoretical and practical cl	sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after teaching Min 23-1 Max 5 points	18 15 m of points the practical Max 38	
14. 15. 16. 17. 18.	between Descripti subject's and worl methods Total ava time fran Forms of activities Other for activities Requiren signature Methods 19.1.	subjects ion of the study king in details nilable ne iteaching rms of of assessm of assessm Tests: po Seminar presentat Final exa	Passed subjectInteractive teac45 hours16.1.16.2.16.3.17.1.17.2.17.3.In order to getfrom attendingentintspaper/project, writion: points	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student need theoretical and practical cl itten and oral Up to 59 points	sons, hours sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after teaching Min 23-1 Max 5 points Final written test=	18 15 m of points the practical Max 38	
14. 15. 16. 17. 18. 19	between Descripti subject's and worl methods Total ava time fran Forms of activities Other for activities Requiren signature Methods 19.1.	subjects ion of the study king in details nilable ne iteaching rms of of assessm of assessm Tests: po Seminar presentat Final exa	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3. 17.1. 17.2. 17.3. In order to get from attending ent ints paper/project, writion: points im: points	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hoi Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student nee theoretical and practical cl itten and oral Up to 59 points From 60 to 68 points	sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after teaching Min 23- Max 5 points Final written test= max 45 points	18 15 m of points the practical Max 38 min 27 - 5 (five) (F) 6 (six) (E)	
14. 15. 16. 17. 18. 19	between Descripti subject's and worl methods Total ava time fran Forms of activities Other for activities Requiren signature Methods 19.1.	subjects ion of the study king in details nilable ne iteaching rms of of assessm of assessm Tests: po Seminar presentat Final exa	Passed subject Interactive teac 45 hours 16.1. 16.2. 16.3. 17.1. 17.2. 17.3. In order to get from attending ent ints paper/project, writion: points im: points	provides attendance to VII s hing, exercises, discussion Lessons – theoretical less Practical lessons (laborat seminars, team work: hor Practice: hours Project tasks: hours Individual tasks: hours Studying at home: hours a signature, the student need theoretical and practical cl itten and oral Up to 59 points	sons, hours ory, auditory), urs eds to score a minimu lasses. Mini-quizzes after teaching Min 23- Max 5 points Final written test= max 45 points	18 15 m of points the practical Max 38 min 27 - 5 (five) (F)	

				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points		10 (ten) (A)		
21.	Methods of monitoring the quality of the teaching process			Students' evaluation				
	Literatur	re						
		Mandator	Mandatory literature					
		Number	Author	Title	Publisher	Year		
22.	22.1.	1.	Georgievska Ismail Lj, editor and co- author	Basics in scientific work-textbook for medical students and health professions	Ss Cyril and Methodius University in Skopje, Faculty of Medicine	2022		
		2.	Teaching materi	als on English for students	prepared by faculty			
		Additiona	l literature					
	22.2.	Number	Author	Title	Publisher	year		
		1.	Teaching materi	als on English for students	prepared by faculty			

Atta	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	PATHOPHYSIOLOGY 2	PATHOPHYSIOLOGY 2				
2.	Code	MED 311					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodius University	in Skopje,	Medical Fact	ulty,		
	institute, chair, department)	Department of Pathophysiology and	d Nuclear	Medicine			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year	Third (III)	Semester	Fifth (V)		
7	ECTS credits	4.5					
8.	Professor (when more professors, responsible professor is assigned)	Prof. Venjamin Majstorov, MD, PhD - responsible professor *Lectures held by the professors from the Department of Pathophysiology and Nuclear Medicine					

9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: passed exam of Physiology 1, Signature of Physiology 2, Signature of Pathophysiology 1. In order to take the final exam, the student should obtain the minimum points in the two continuous assessments. Preconditions for taking the exam is passed Pathophysiology 1				
11.	Subject program goals (competences) and study results:	To get introduced with mechanisms of initiation, course and on the hematopoietic, heart and vascular, lung, kidney, gastrointer and bile and endocrine disorders				
12.	Subject content in details by chapters and units, with study results for every chapter	Theoretical course• Disorders of hematopoietic system• Disorders of cardiovascular system• Disorders of respiratory system• Disorders of renal system• Disorders of gastrointestinal system• Disorders of hepatobiliary system• Disorders of endocrine system• Disorders of e				
13.	Interconnection between subjects	of in vitro and in vivo methods Related to all subjects in the study program Signature from this subject provides attendance for following subjects: Clinical examination 2, Pathology 2, Pharmacology, Transfusiology Passed subject provides attendance to VII semester.				
14.	Description of the subject's study and working methods in details	Interactive teaching during lectures and practical trainings, independent study by using textbooks, practical exercises, computer-assisted learning.				
15.	Total available time frame	135 classes				
16.	Forms of teaching activities	16.1.Theoretical lessons, hours16.2.Practical course (laboratory, auditory), seminars, team work: hours16.3.Practice: hours	30 30			
17.	Other forms of activities	17.1.Project tasks: hours17.2.Individual tasks: hours17.3.Studying at home: hours	75			
18. 19.	Requirements for signature Methods of assessmen	The student is required to actively follow all of the planned activities. Conditional criteria for assessment of knowledge: In order to get a signature, the student should obtain minimum points in both theoretical and practical courses. In order to take the final exam, the student should obtain the minimum points in the two continuous assessments. If the student has not obtained the minimum points in the continuous assessments, he/she will be obligated to pass them before the final exam.				

	10.1	T		
	19.1.	Tests: points		min – max Continual assessment – 2 tests 1. Disorders of hematopoietic, cardiovascular, respiratory and renal systems
				18 - 30 points
				 Disorders of gastrointestinal, hepatobiliary and endocrine systems
				18 - 30 points
	19.2.	Seminar paper/project, v	written and oral	
	19.3.	presentation: points		min-max
	17.0.	Final exam: points		Final exam: final test + oral examination 1. Final test: analysis of experimental models or tests for disorders detection
				6 - 10 points2. Oral exam: theoretical discussion for the application of experimental models or tests
				6 - 10 points Completion exam - combination of the failed tests (in written form) plus final test and final oral exam Full exam - combination of the two failed testes plus final test and final oral exam
				Active participation: points Theoretical course (% of presence) 1 - 5
				• min.30% 1 point • 31-70% 2 points • 71-100% 5 points
				Practical course 12 - 15
20.	Grading	criteria (points/grade)	Up to 59 points	5 (five) (F)
		_ /	From 60 to 68	6 (six) (E)
			points	
			From 69 to 76	7 (seven) (D)
			points From 77 to 84	8 (eight) (C)
			points	o (eight) (e)
L	1		1 Г	

				From 85 to 92		9 (nine) (B)		
				points) (iiiic) (b)		
				From 93 to 100		10 (ten) (A)		
				points				
21.	Methods of monitoring the				ation by the students for the	teaching staff.		
		f the teachi	ng process					
	Literatu	re						
		Mandator	ry literature					
		Number	Author	Title	Publisher	Year		
	22.1.	1.	McPhee SJ, Ganong WF.	Pathophysiology of disease. An introduction to clinical medicine.	New York: Langee medical Books/McGraw- Hill	2003		
		Additiona	l literature					
		Number	Author	Title	Publisher	year		
22.	22.2.	1.	Vaskova O, Miceva Ristevska S, Pop Gjorceva D, Miladinova D, Loparska S, Majstorov V:	Special pathological physiology	Skopje: RC Copy	2012		
		2.	Vaskova O, Miceva Ristevska S, Pop Gjorceva D, Miladinova D, Loparska S.	Practical course for general and special pathological physiology	Skopje: Boro Grafika	2013		

Numł	Number:27						
Attachment 3		Integrated cycle of studies – Subject program					
1.	Subject	MICROBIOLOGY AND PARASITOLOGY 2					
2.	Code	MED 312					
3.	Study program	General Medicine					

4	In stitution (unit	University S. Comit and Mathedius in Strania Frankty of Madiaina				
4.	Institution (unit,					
	institute, chair,	University Ss. Cyril and Methodius in Skopje, Faculty of Medicine, Department of Microbiology and Parasitology				
	department)	Internet of Concernet align				
5.	Degree of education	Integrated 6-year studies				
	(first, second, third cycle)					
6.	Academic year/semester	Year Third (III) Semester Fifth (V)				
7	ECTS credits	6				
8.	Professor (when more					
0.	professors, responsible	Associate Prof. Maja Jurhar Pavlova PhD, MD - responsible professor				
	professor is assigned)	*Lectures held by the professors from the Department of				
	professor is assigned)	*Lectures held by the professors from the Department of Microbiology and parasitology				
0	Language of the study					
9.	Language of the study	English Passed exam: Physiology 1				
	Preconditions for	Passed exam: Physiology 1				
	attending the classes and	Signature: Physiology 2; Pathophysiology 1; Microbiology and				
10.	taking the subject's exam	parasitology 1.				
		In order to take final exam, the student has to win a minimum of				
		60% of the two continual assessment tests.				
11.	Subject program goals	Specific knowledge of important bacteria relevant to human				
	(competences) and study	medicine;				
	results:	Solid knowledge of important viruses relevant to human				
		medicine;				
		 The necessary knowledge about medically important fungi; 				
		 More specific knowledge of medically important parasites 				
		 To gain comprehensive understanding of microorganisms 				
		and their role in the field of medicine				
		• To develop communication and critical thinking as essential				
		skills in microbiology				
		Comprehensive Interpret of results of different				
		microbiological analyses				
		 Application of microbiological methods to different 				
		laboratory and clinical situations				
		 Ability to communicate and collaborate with other 				
		disciplines in microbiological context				
		• Properly prepare and view specimens for examination using				
		microscopy				
		• Identification of microorganism by implementing adequate				
		methods				
		• Practice safety in microbiological laboratory, by				
		implementation of different protective procedures.				
12.	Subject content in details	Theoretical course:				
14.	by chapters and units,	 Medical bacteriology: Classification of medical important 				
	with study results for	bacteria; Gram positive cocci; Gram negative cocci; Gram				
	every chapter	positive bacilli; Gram negative bacilli; Intracellular bacteria;				
		 Medical mycology: Triggers superficial mycoses, Triggers 				
		systemic mycoses, Medical Parasitology, Medical				
		significant protozoa, Medical significant helminths, Intra-				
		hospital infections				
		 Spiral bacteria Medical virology: Classification and nomenclature of viruses; RNA viruses; DNA viruses Medical mycology: Triggers superficial mycoses, Triggers systemic mycoses, Medical Parasitology, Medical 				

			cocci; Mic respiratory involving infections Microbiol nervous sy infections ; Laborator	ogical diagnosis of infect probiological diagnosis of y tract; Microbiological d the urogenital tract; Micr involving the gastrointes ogical diagnosis of infect ystem; Microbiological diagnos ry diagnosis of infections y diagnosis of infections y diagnosis of infections	infections involvi iagnosis of infecti robiological diagn tinal tract; ions involving the agnosis of intra-h is of anaerobic inf caused by fungi; caused by protozo	ing the ons osis of central ospital ections a;
13.	Interconn	ection between	Related to all subje	ects in the study program		
	subjects			vides attendance to VII se	emester.	
14.	Descriptic subject's working n details		 Independe Exercises Seminars Learning I Independe results Independe 	e theoretical teaching ent learning based on their problems a ent analysis of microbiolo ent interpretation of micro gical results	gical and parasitol	ogical
15.	Total avai	ilable time	180			
	frame					
16.	Forms of activities	teaching	16.1. 16.2.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditor seminars, team work: hours		45 30
			16.3.	Practice: hours	0013	
	Other for	ms of activities	17.1.	Project tasks: hours		
17.			17.2.	Individual tasks: hours		
			17.3.	Studying at home: hours	5	105
18.	Requirem signature		0	gnature, the student must nd obtain at least 70% of		and
19.		of assessment				
	19.1.	Tests: points			First continuous (12-20) Second continuo exam (21-35)	points) bus
	19.2.	Seminar paper/p	project, written and o	ral presentation: points	Power point presentation of t seminar work (processing of sa processing of ca analysis of	mples,

					microhiologi	col regults)	
			microbiological results) (3 points)				
	19.3.	Final exam: poin	nts		Oral examination		
	17.01	i mui exami. pon	(17-29 points)				
	19.4.	Active participation: points				e j	
		1 1	1			3 points)	
					Practical cou	rse	
						0 points)	
20.	Grading	criteria (points/gr	ade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		(seven) (D)	
				From 77 to 84 points		(eight) (C)	
				From 85 to 92 points		$\frac{1}{2}$ (nine) (B)	
				From 93 to 100 points		0 (ten) (A)	
21.		of monitoring the	quality of the	Anonymous evaluation		the	
	teaching	process		subject, teaching staff an			
	Literatu			participating in the teach	ling		
	Literatu	1					
		Mandatory literature					
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Brooks G, Karen C. Carroll KC, Butel J, Morse S,	Jawetz, Melnick & Adelberg's Medical Microbiology – 26 th	Chicago: McGraw- Hill	2012	
			Meizner T.	Edition	Education / Medical		
22.		2.	Greenwood D, Slack RCB, Barer HH, Irving ML	Medical Microbiology: With STUDENTCONSULT online access (Greenwood,Medical Microbiology) 18 th Edition	London: Churchill Livingstone	2012	
		3.	Procop GW, Church DL, Geraldine S. Hall GS, Janda WM, Koneman EW, Schreckenberger PC	Koneman's Color Atlas and Textbook of Diagnostic Microbiology 7th Edition	Burlington: Jones & Bartlett Learning	2016	
		Additional litera	iture				
		Number	Author	Title	Publisher	year	
	22.2.	1.		s on English for students j es from the Department o			

	ber: 28 achment 3	Integrated excle of stu	dias Subject pre	arom		
Attachment 3Integrated cycle of studies – Subject program1.SubjectPATHOLOGY 1				igi alli		
1.	Subject					
2.	Code	MED 313				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss Cyril and Methodiu	s University in S	kopje, Faculty o	of Medicine,	
	institute, chair,	Department of Patholog		15 / 2		
	department)		•			
5.	Degree of education	Integrated 6 - year studi	es			
	(first, second, third					
	cycle)			1		
6.	Academic	Year	Third (III)	Semester	Fifth (V)	
	year/semester					
7	ECTS credits	9				
8.	Professor (when more	Associate Prof. Magdale	ena Bogdanovska [Гodorovska, PhD	9, MD -	
	professors,	responsible professor				
	responsible professor	*Lectures held by all pro-	ofessors from the I	Department of Pa	ithology	
0	is assigned)	F 1' 1				
9.	Language of the	English				
	study Preconditions for	D	·		1 1	
		Preconditions for attend				
	attending the classes and taking the	Anatomy 3, Histology a and Pathophysiology 1.	nd Embryology 2,	Signatures from	Physiology 2	
	subject's exam	In order to take the final	exam the student	has to have at le	ast a	
10.	subject s exam	minimum points from th				
10.		the total number of poin				
		Active participation (po		$\min - m$	÷	
		Theoretical course)	1-2		
		Practical course		4–6		
11.	Subject program	The student will get know	wledge about the	causes and gener	al	
	goals (competences)	mechanisms of develop	ment of the disease	es, as well as to u	inderstand the	
	and study results:	structural and functional				
		the routine morphologic				
		While studing general p				
		cellular and tissue respo				
		In the special section, th				
		and changes during vari		onditions of RES) ,	
		cardiovascular and respin		nd histological m	athods of	
		The student will learn the macroscopical and histological methods of				
		analysis of the morphological changes in the organs, tissues and cells, based on which the diagnosis is established and therapy is planned.				
12.	Subject content in	Theoretical course:		a and morapy 15		
	details by chapters		hology and part of	the special patho	ology:	
	and units, with study		ury, adaptations an		01	
	results for every		nic disorders, thro		ck	
	chapter		hronic inflammati			
	-	Tissue reger	neration and repara	ation		
		Specific inf				

			• • • • •	Genetic diseases Immunopathology Environmental and nutritional diseases Pathology of the neoplasia Pathology of the reticuloendothelial system Pathology of the cardiovascular system Pathology of the respiratory system Durse: e skills of microscopic analysis and diagnostics	son
			specimens, a determination	ogical slides, dissection and macroscopic analys autopsy technique, interpretation of the change on of the basic disease and immediate cause of practical application of the acquired theoretical	s with death;
13.		ı subjects	Related to a Signature pr examination Passed subje	Il subjects in the study program. rovides attendance for following subjects: Clinic 12, Pathology 2, Pharmacology, Transfusiolog ect provides attendance to following exams: Pa	cal y
14.	subject' working details	tion of the s study and g methods in		ecutres, practical excercises / seminars	
15.	Total av frame	ailable time	270 hours		
16.		of teaching	16.1.	Lessons – theoretical lessons, hours	75
	activitie	s	16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	60
			16.3.	Practice: hours	Facultative
17	Other fo		17.1.	Project tasks: hours	Facultative
17.	activitie	S	17.2.	Individual tasks: hours	Facultative
18.	signatur		lessons (1-2 (1-2 points)	Studying at home: hours get a signature, the student has to attend the the points), practical excercises (4-6 points) and th , and to achieve at least minimum 6 points.	
19.		s of assessment			
	19.1.	Tests: points	Continual as	ssessment * po	oints 24-40
			Cellular inju Hemodynan Acute and c Specific infl Genetic dise Immunopath	eases	

	19.2.	Seminar paper/project, written and oral presentation: points	min leas kno exan the The sum	imum po t 30% of wledge (mination student n final gra	oints from the contine the total number of 13 points); during th for the failed contin may proceed to the fi ade is formed accord	he student has to have at lea uous assessment (24 points) points provided for contino e exam session the student r uous assessment first, and a nal exam. ing to the grading table, bas activities, continuous checl	, or get at us check of nust take an fterwards ed on the
	19.3.	Final exam: points	Prace *Or subj ** H diag mace about	Practical gnosis of croscopic ut the top student	(integrative) – 4 quer ram exam (catalogue ski 4 histological slides al analysis of surgica bic considered. is obligated to achiev	points stions taken from the whole lls) microscopical analysis a , autopsy or dissection and al specimens with theoretica we a minimum of the intende	and I discussion ed points of
					ent to pass the contin sidered failed.	ual assessment. Otherwise,	the final
20.	Gradin (points/	g criteria grade)		From 69	9 points 0 to 68 points 9 to 76 points 7 to 84 points	5 (five) (F) 6 (six) (E) 7 (seven) (D) 8 (eight) (C)	
			-	From 8:	5 to 92 points 3 to 100 points		9 (nine) (B) 10 (ten) (A)
21.	the qua process			Student's anonymous evaluation of the subject, teachers and			
	Literat						
22.	22.1.	Mandatory lite	-				
		Number	A	uthor	Title	Publisher	Year

	1.	Kumar V, Cotran RS, Robbins SL.	Robbins Basic Pathology, 7th ed.	Philadelphia: W.B. Sounders Company	2003
	2.	Kumar V, Abbas AK, Aster JC, Fausto N.	Pathologic Basis of Disease, 8 th ed.	Philadelphia: W.B. Sounders Company	2010
	Additional lite	rature			
	Number	Author	Title	Publisher	year
22.2.	1.	Klatt EC	Robbins and Cotran Atlas of Pathology	Philadelphia: W.A. Saunders	2010

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	chment 3	Integrated cycle of studies – Subject program					
1.	Subject	CLINICAL EXAMINA	TION 1 and 2	2			
2.	Code	MED - 314					
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss. Cyril and Methodius	University in S	Skopje, Facult	y of		
	chair, department)	Medicine, Department of	Internal Medi	icine			
5.	Degree of education (first,	Integrated 6-year studies					
	second, third cycle)						
6.	Academic year/semester	Year	Third (III)	Semester	Sixth (VI)		
7	ECTS credits	13					
8.	Professor (when more	Assistant professor Beti T	Fodorovska, M	ID, PhD - resp	oonsible		
	professors, responsible	professor					
	professor is assigned)	*Lectures held by the pro	ofessors from t	he Departme	nt of		
		Internal Medicine, Department of Pediatrics, Department of					
		Surgery.					
9.	Language of the study	English					
	Preconditions for attending	Preconditions for attendir					
	the classes and taking the	For Clinical Examination	on 1: passed e	xams from A	natomy 3		
10.							
		Parasitology 1 and Pathop	physiology 1.				
		For Clinical Examination 2: right to apply for the final exam					

		for Dethology 1 obtained signature from Dethology 1		
		for Pathology 1, obtained signature from Pathophysiology 2 and Clinical Examination 1, passed exams from Biochemistry 1 and Physiology 2. Preconditions for taking the exam: passed Pathophysiology 1.		
11	Subject program goals	Acquiring theoretical knowledge and skills during patient exams		
11.	Subject program goals			
12.	(competence): Subject content in details by	and additional examination/investigation in clinical medicine.		
12.				
	chapters and units	 Theoretical course (short contents): Techniques for obtaining medical history in children and adults (with appropriate particularitites in the child population, in surgical patients, as well as patients with internal diseases; General status in children and adults; Principles of examination by systems, symptom characteristics, signs and findings form paraclinical examinations for internal diseases by systems: cardiovascular, respiratory, endocrine, urogenital, digestive, hematopoetic and locomotory system, as well as particularities of clinical examination in intoxications; Particularities of medical history, clinical examination and targeted paraclinical examinations in surgical conditions, diseases and trauma: symptoms, physical findings and special examinations in surgical conditions, diseases and trauma: symptoms, physical findings and special examinations in surgical conditions involving the head (in children and adults), examination of a patient with a chest injury and pneumothorax, examination and patient with a chest injury and pneumothorax, examination and objective findings in diseases of the male genitalia – urogential system, injuries to the hand and peripheral nerves, thermal and radiation injuries, examination and objective findings in diseases of the male genitalia – urogential system, mammary diseases, lymph nodes (axillary and of the neck); Characteristics of medical history, clinical examination and paraclinical examinations in the pediatric population, as well as particularities of the diseases of the childhood age. Practical course: Applying the theoretical knowledge in practice; The student shall gain skills for mastering of techniques and methods for taking patient medical history, clinical assessment of an ill patient, differential-diagnostic thinking, assessment of		
		results from the paraclinical examinations.		
13.	Interconnection between subjects	Related to all subjects in the study program. Passed subject provides attendance to VII semester.		
14.	Description of the subject's	Learning methods: Interactive theoretical lectures, active		
	study and working methods in details	practice on patients.		
15.	Total available time frame	390 hours		
16.	Forms of teaching activities	16.1Teaching – theoretical lectures76 hours		
- 00	of tenening weithing	, o nours		

				16.2	Practice (laboratori team work	es, clinical), seminars,	109 hours
	Other for	ms of acti	vities	17.1	Project assignments	S	
17.				17.2	Individual assignm	ents	
				17.3	Studying at home		205 hours
18.	Requiren	nents for si	ignature	For t	the student to obtain a s	ignature, he/she must ga	in the
		g the final		mini		om attendance of the the	
19.	Grading						
	19.1.	Tests: po	oints				
	19.2.	written a	paper/projec ind oral tion: points	ct,	Theoretical teaching at Practical teaching atter		min-max 1 - 5 12 - 15
	19.3.	Final exa	am: points		Theoretical part		9 - 15
					Practical part		20 - 35
	~				Oral part	1	18 - 30
20.	Grading	criteria (p	oints/grade)		Up to 59 points		5 (five) (F)
					From 60 to 68 points From 69 to 76 points		$\frac{6(\text{six})(\text{E})}{7(\text{seven})(\text{D})}$
					From 77 to 84 points		7 (seven) (D) 8 (eight) (C)
					From 85 to 92 points		9 (nine) (B)
					From 93 to 100 points		$\frac{9 \text{ (line) (B)}}{10 \text{ (ten) (A)}}$
21.	Methods	of monito	ring the			luation for the subject, t	. , . ,
21.			ing process		associates participating		cachers and
	Literatur		ing process		ussoeilates participating	in the teaching.	
			ory literature	e			
	-	Number	Author		Title	Publisher	Year
	22.1.	1.	McPhee SJ Ganong W	F.	Pathophysiology of Disease: An Introduction to Clinical Medicine	Chicago: Mc Graw Hill Interamericana	2014
		2.	Swartz MH]	Textbook of Physical Diagnosis: History and Examination	Chicago: Mc Graw Hill Interamericana	2014
22.		3.	Bickley LS Szilagyi PO	Ĵ .]	Bates' Guide to Physical Examination and History Taking	Akadmenski pechat, 10 th edition, Skopje	2012
		4.	Wallach J.]	Interpretation of Diagnostic Tests	Akademski pechat, 8 th edition, Skopje	2013
		Addition	al literature	•			
		Number	Author		Title	Publisher	Year
	22.2.	1.	Georgievsk Ismail Lj, Poposka L Trajkov I, Gjorgov N	,	Electrocardiography	(COIBSS. MK – ID71834122)	2008

	2.	Grozdanovski	Chronic Renal	(COIBSS. MK –	2008
		R, Ivanovski	Disease – Prevention,	ID73515018)	
		N.	Clinical Manifestation		
			and Treatment.		
	3.	Sethuraman	Communication Skills	Skopje:Tabernakul	2010
		KR.	in Clinical Practice		
			(Doctor-Patient		
			Communication)		
	4.	Serafimovski	Internal Propedeutics	Kumanovo:	2004
		V, Editor in	-	Makedonska Riznica	
		chief			

	nber:30							
	ichment 3	Integrated cycle of studies – Subject pro	gram					
1.	Subject	NUCLEAR MEDICINE						
2.	Code	MED 315						
3.	Study program	General Medicine						
4.	Institution	Ss Cyril and Methodius University in Skop		lty of Medio	cine, Department			
	(unit, institute,	of Pathophysiology and Nuclear Medicine						
	chair,							
	department)							
5.	Degree of	Integrated 6-year studies						
	education (first,							
	second, third							
	cycle)							
6.	Academic	Year	Third	Semester	Fifth (V)			
	year/semester		(III)					
7	ECTS credits	1.5						
8.	Professor	Assistant Prof. Nevena Manevska, MD, PhD - responsible professor						
	(when more	*Lectures held by all professors from the Department of Pathophysiology and						
	professors,	Nuclear Medicine						
	responsible							
	professor is							
	assigned)							
9.	Language of	English						
	the study							
	Preconditions	Preconditions for attending the classes: obt	tained cr	edits and pa	ssed final exam			
	for attending	of Biophysics.		•				
10.	the classes and	In order to take the exam the student should obtain minimum points in both						
	taking the	theoretical and practical courses.		1				
	subject's exam							
11.	Subject	To become acquainted with the basics of n	uclear m	edicine, pro	duction of			
	program goals	radioisotopes and radiopharmaceuticals.						
	(competences)	To get acquainted with radionuclide applic	ations ir	n diagnosis a	and therapy of			
	and study	diseases.						
	results:							
12.	Subject content	Theoretical course:						
	in details by	• Physical bases of radioactivity, ty	pes of de	ecay, radioa	ctivity detectors.			

	units, v	 apter Practical course: Routine procedures in detection and measurement of radioactivity. Application of radionuclides for in vivo and in vitro procedures. Presentation of the most frequently performed nuclear medicine diagnostic procedures. 				activity. lures.
13.	Interco betwee subject			to all subjects in the study progra e from this subject provides atten		
14.	Descrip the sub study a workin method details	otion of ject's ind g ls in	by using learning.			
15.	Total a time fr	vailable ame	45 classe	28		
16.	Forms teachin	of g	16.1.	Lessons – theoretical lesson		20 classes
	activiti	es	16.2. 16.3.	Practical lessons (laboratory seminars, team work: hours Practice: hours	• * *	10 classes
17.	Other f	forms of	17.1.	Project tasks: hours		
17.	activitio	es	17.2. 17.3.	Individual tasks: hours Studying at home: hours		15 classes
18	Requir for sign		Condition	ent is required to actively follow onal criteria for assessment of to get a signature, the student she al and practical courses.	knowledge:	?S.
19.		ds of asses				
	19.1.	Tests: po				
	19.2.		paper/proj tion: points	ect, written and oral		
	19.3.		am: points	<u> </u>	Written exar Oral exam	min-max n 36 - 60 15 - 25
		Active p	articipation	n: points	Theoretical course (% of presence) min. 30% 31-70% 71-100% Practical course	points 1 - 5 1 2 5 8 - 10

20.	Gradi	ng	Up to 59 poi			5 (five) (F)	
	criteri	a	From 60 to 6	58 points		6 (six) (E)	
	(points	s/grade)	From 69 to 7	76 points		7 (seven) (D)	
			From 77 to 8	84 points		8 (eight) (C)	
			From 85 to 9	92 points		9 (nine) (B)	
			From 93 to 1	100 points		10 (ten) (A)	
21.	Metho	ds of	Anonymous	evaluation by the students for	or the teaching staff.		
	monite	oring the	-		-		
	quality	y of the					
	teachi	ng					
	proces						
	Litera	ture					
		Mandato	ry literature				
		Number	Author	Title	Publisher	Year	
	00.1	1.	O'Malley	Nuclear Medicine and	New York:	2020	
	22.1.		JP,	Molecular Imaging: The	Elsevier		
			Ziessman	Requisites			
			HA, Thrall				
22.			JH.				
		Addition	al literature				
		Number	Author	Title	Publisher	year	
		1.	Mettler	Essentials of Nuclear	New York:	2018	
	22.2.		FA,	Medicine and Molecular	Elsevier		
			Guiberteau	Imaging: Expert Consult			
			MJ.				

Number:31	
Trumber.51	

Atta	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	RADIOLOGY					
2.	Code	MED 316					
3.	Study program	General Medicine					
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius Univer Department of Radiology	Ss. Cyril and Methodius University in Skopje, Medical Faculty, Department of Radiology				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year	Third (III)	Semester	Fifth (V)		
7	ECTS credits	3		·			
8.	Professor (when more professors,		ssistant Prof. Petar Janevski MD, PhD- responsible professor Lectures held by the professors from the Department of Radiology				

	responsible professor is assigned)			
9.	Language of the study	English		
10.	Preconditions for attending the classes and taking the subject's exam	In order continua points in student h then he/s Active p	ition for attending the classes is passed Biophysics. to take the final exam, the student should pass all a l assessments or to obtain minimum 30% of the tot the continual assessments; in the examination sess has to pass previously failed parts of continual asses the can approach to take the final exam. articipation (points) min – ma cal course $2-3$ course $2-3$	anticipated al number of sion the ssments and
11.	Subject program goals (competences) and study results:	Learning body Practical	g fundamental concepts in radiology by systems in work by showing examples of radiological method and pathology by systems	
12.	Subject content in details by chapters and units, with study results for every chapter	•	ntent ical course: Imaging physics and radiation protection The characteristics of imaging techniques The clinical role of imaging techniques, both indiv part of a coordinated investigation regime The use of appropriate referral criteria and clinical Appropriate investigation of acute and life-threaten conditions	guidelines
		•	al course: Basic interpretative skills for conventional and cross imaging Interpretative skills for emergency investigations	ss section
13.	Interconnection between subjects	Related t Passed en	to all subjects in the study program xam of Radiology is precondition for taking the cla from the seventh semester	usses of any
14.	Description of the subject's study and working methods in details	Interactiv exams	ve teaching during lectures, practical courses and co	olloquium
15.	Total available time frame	90		
16.	Forms of teaching activities	16.1. 16.2. 16.3.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	<u>30</u> 30
17.	Other forms of activities	17.1. 17.2. 17.3.	Project tasks: hours Individual tasks: hours Studying at home: hours	30
18.	Requirements for signature		to get a signature, the student should attend minim al and practical courses and to obtain minimum po	

19.	Methods	of assessmen	t			
	19.1.	Tests: point	īS		First continual assessment 12 min 20 max. Second continual assessment 12 min 20 max. Practical and oral examination	
	10.2	<u> </u>		··· 1 1	32 min 54 max.	
	19.2.	presentation		written and oral	/	
	19.3.	Final exam				
20.	Grading	criteria (poin	ts/grade)	Up to 59 points		5 (five) (F)
	0	u	8 /	From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.	Methods of monitoring the quality of the teaching process			Student anonymous evaluation for the subject, teachers and associates participating in the teaching		
	Literature					
		Mandatory l	iterature			
		Number	Author	Title	Publisher	Year
	22.1.	1.	Eastman G, Wald C, Crossin J	Getting Started in Clinical Radiology: From Image to Diagnosis, 1st edition	New York: Thieme	2005
22.		2.	Möller TB, Emil Reif E	Pocket Atlas of Sectional Anatomy, Vol. 1: Head and Neck, Computed Tomography and Magnetic Resonance Imaging, 4th edition	New York: Thieme	2013
		3.	Möller TB, Emil Reif E	Pocket Atlas of Sectional Anatomy, Vol. II: Thorax, Heart, Abdomen and Pelvis: Computed Tomography and Magnetic Resonance Imaging 4th edition	New York: Thieme	2013

	4.	Möller TB, Emil Reif E	Pocket Atlas of Sectional Anatomy, Volume III: Spine, Extremities, Joints: Computed Tomography and Magnetic Resonance Imaging 2nd Edition	New York: Thieme	2017
Additional literature					
	Number	Author	Title	Publisher	year
22.2.	1.	Herring W.	Learning Radiology: Recognizing the Basics, 5th edition	New York: Elsevier	2023

	ber:32 achment 3	Integrated cycle of studi	ies – Subiect ni	rogram			
1.	Subject	PATHOLOGY 2					
2.	Code	MED 321					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Faculty of Medicine,					
	institute, chair, department)	Department of Pathology					
5.	Degree of education	Integrated 6-year studies					
	(first, second, third						
	cycle)			1			
6.	Academic year/semester	Year	Third (III)	Semester	Sixth (VI)		
7.	ECTS credits	8					
8.	Professor (when more	Assoc. Prof. Magdalena H	Bogdanovska To	odorovska, PhD	, MD -		
	professors, responsible	responsible professor					
	professor is assigned)	*Lectures held by all professors from the Department of Pathology					
9.	Language of the study	English					
	Preconditions for	Preconditions for attending	ng the classes: p	bassed exams B	iochemistry 1		
	attending the classes	and Physiology 2. Signat	ures from: Path	ology 1 and Pat	hophysiology		
	and taking the subject's	2.					
	exam	In order to take the final e	exam, the stude	nt has to have a	t least a		
10.		minimum points from the					
		least 30% of the total number of points provided for continous check					
		of knowledge (13 points); during the exam session the student must					
		take an examination for the failed periodical evaluation first, and					
		afterwards the student may proceed to the final exam.					
11.	Subject program goals	To enable learning of the	ethiopathogene	tic mechanisms	of the		
	(competences) and	diseases.					
	study results:	To enable learning of the					
		histopathologic changes i	n tissues and or	gans in diseases	s of all		
		systems.					

				students for morphologic diagnostics of the o				
			well as to ir To introduc	well as to introduce the contemporary diagnostic techniques. To introduce the basic clinical manifestations of the diseases				
12.	Subject	content in	Theoretical course:					
		oy chapters and	Pathology b	by systems:				
		ith study results		hology of the digestive system				
		y chapter		hology of the liver, gallbladder and pancreas				
		J		hology of the urinary system				
				hology of breast				
				hology of the endocrine system				
				hology of the central nervous system				
			 Pathology of the genital system 					
				hology of skin				
				hology of the locomotion system				
			Practical co					
				urning the skills of microscopic analysis and o	diagnostics on			
				copathologic slides, dissection and macroscop				
				gical specimens.	one analyses of			
				urning the manual skills of autopsy including	datamination			
			of the main disease, complications of the main disease, prior diseases and determining the cause of death.					
13.	Intercor	nation						
13.			Related to all subjects in the study program. Passed subject provides attendance to VII semester.					
14.		1 subjects tion of the	Interactive lecutres, practical excercises /seminars					
14.	-	's study and	meractive	lecutes, practical excercises /seminars				
		g methods in						
	details	g methous m						
15.		ailable time	240	240				
15.	frame	anable time	240					
16.	Forms o	of teaching	16.1.	Lessons – theoretical lessons, hours	60			
	activitie	S	16.2.	Practical lessons (laboratory, auditory),	60			
				seminars, team work: hours				
			16.3.	Practice: hours	Facultative			
	Other fo	orms of activities	17.1.	Project tasks: hours	Facultative			
17.			17.2.	Individual tasks: hours	Facultative			
			17.3.	Studying at home: hours	120 classes			
18.	Require	ements for	Active parti	cipation (points) min-	max			
	signatur		Theoretical					
	0		Practical co	urse 2–	4			
19.	Method	s of assessment	·					
	19.1.	Tests: points	Continual assessment * points 26-40					
				test covering the following areas of Patholog	gy 2:			
				hology of the digestive system,				
				hology of the biliary system and pancreas.				
				hology of the urinary system.				
				hology of the breast				
1			• Pat	hology of the endocrine system				

			• Path	• Pathology of the central nervous system						
	19.2.	Seminar paper/project, written and oral presentation: points	1-2 points							
	19.3.	Final exam: points	Oral exam' Practical exa	Min-max * points 15-25 am** pts 15-25						
			*Oral exam Pathology 2	ole						
			 ** Practical exam (catalogue skills) microscopical analysis and diagnosis of 4 histological slides, autopsy or dissection and macroscopical analysis of surgical specimens with theoretical discussion about the topic considered. The final grade is formed according to the grading table, based sum of the points earned from all activities, continuous checks 							
10	<i>a</i> "			and the final exam.	1	5 (C) (T)				
19.		g criteria	Up to 59 po From 60 to		5 (five) (F) 6 (six) (E)					
	(points/	graue)	From 69 to			7 (seven) (D)				
			From 77 to 84 points			$\frac{7 (\text{seven}) (\text{D})}{8 (\text{eight}) (\text{C})}$				
			From 85 to 92 points 9 (nine) (B							
			From 93 to 100 points 10 (ten) (A)							
21.	the qua	ls of monitoring lity of the g process	Student's anonymous evaluation of the subject, teachers and associates involved in the educational process.							
	Literat	ure								
	Mandatory literature									
		Number	Author	Title	Publisher	Year				
22.	22.1.	1	Kumar V, Cotran RS, Robbins SL.	Robbins Basic Pathology, 7th ed.	Philadelphia: W.B. Sounders Company	2003				
		2.	Kumar V, Abbas AK, Aster JC, Fausto N.	Pathologic Basis of Disease, 8 th ed.	Philadelphia: W.B. Sounders Company	2010				
		Additional litera	turo							
	22.2.	Number	Author	Title	Publisher	year				
						J				

	1.	Klatt EC	Robbins and	Philadelphia: W.A.	2010
			Cotran Atlas of	Saunders	
			Pathology		

Attachment 3 Integrated cycle of studies – Subject program 1. Subject EPIDEMIOLOGY 2. Code MED 322 3. Study program General Medicine 4. Institution (unit, institute, chair, department) Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Epidemiology and Biostatistics with Medical Informatics 5. Degree of education (first, second, third cycle) Integrated 6-year studies 6. Academic year/semester Year Third (III) Semester Sixth (VI) 7 ECTS credits 5 Professor (when more professors, responsible professor is assigned) Prof. Vesna Velic Stefanovska MD PhD - responsible professor *Lectures held by the professors from the Department of Epidemiology and Biostatistics with Medical Informatics 9. Language of the study English 9. Language of the study English 10. Preconditions for attending the classes and taking the subject's exam Preconditions for attending the classes is passed exam Biostatistics with Medical Informatics. 10. Subject program goals (competences) and study results: • Acquiring of theoretical and practical knowled enshall take the previously failed continuous tests, and then shall take the final exam. Active participation (points) min – max		lumber:33	1					
2. Code MED 322 3. Study program General Medicine 4. Institution (unit, institute, chair, department) Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Epidemiology and Biostatistics with Medical Informatics department) 5. Degree of education (first, second, third cycle) Integrated 6-year studies 6. Academic cycle Year Third (III) Semester Sixth (VI) 7 ECTS credits 5 Professor (when more professors, responsible professor is assigned) Prof. Vesna Velic Stefanovska MD PhD - responsible professor *Lectures held by the professors from the Department of Epidemiology and Biostatistics with Medical Informatics 9. Language of the study attending the classes and taking the subject's exam Preconditions for acquire a minimum of 30% of total number of points in the continuous tests, whereas during the exams session the student shall take the previously failed continuous tests, and then shall take the final exam. Active participation (points) min – max Theoretical course 10. Subject program goals (competences) and study results: • Acquiring of theoretical and practical knowledge from the area of epidemiological problems and challenges as well as their prevention. • Acquiring of skills which will use mortality and morbidity indicators to analyze conditions with specific diseases or groups of diseases, including the ethyology factors for their				es – Subject pr	ogram			
3. Study program General Medicine 4. Institution (unit, institute, chair, department) Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Epidemiology and Biostatistics with Medical Informatics department) 5. Degree of education (first, second, third cycle) Integrated 6-year studies 6. Academic year/semester Year 7 ECTS credits 5 8. Professor (when more professors, responsible professor is assigned) Prof. Vesna Velic Stefanovska MD PhD - responsible professor *Lectures held by the professors from the Department of Epidemiology and Biostatistics with Medical Informatics 9. Language of the study attending the classes and taking the subject's exam Preconditions for attending the classes and taking the subject's exam Preconditions for attending the classes is passed exam Biostatistics with Medical Informatics. To take the final exam, the student must pass the continuous tests or acquire a minimum of 30% of total number of points in the continuous tests, whereas during the exams session the student shall take the previously failed continuous tests, and then shall take the final exam. Active participation (points) 11. Subject program goals (competences) and study results: • Acquiring of theoretical and practical knowledge from the area of epidemiological problems and challenges as well as their prevention. • Acquiring of skills which will use mortality and morbidity indicators to analyze conditions wi		*						
4. Institution (unit, institute, chair, department) Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Epidemiology and Biostatistics with Medical Informatics (first, second, third cycle) 5. Degree of education (first, second, third cycle) Integrated 6-year studies 6. Academic year/semester Year 7 ECTS credits 5 8. Professor (when more professors, responsible professor is assigned) Prof. Vesna Velic Stefanovska MD PhD - responsible professor *Lectures held by the professors from the Department of Epidemiology and Biostatistics with Medical Informatics 9. Language of the study English Preconditions for attending the classes is passed exam Biostatistics with Medical Informatics. To take the final exam, the student must pass the continuous tests or acquire a minimum of 30% of total number of points in the continuous tests, whereas during the exams session the student shall take the previously failed continuous tests, and then shall take the final exam. Active participation (points) min – max Theoretical course 11. Subject program goals (competences) and study results: Acquiring of theoretical and practical knowledge from the area of epidemiology which would enable recognition and resolution of epidemiological problems and challenges as well as their prevention. Acquiring of skills which will use mortality and morbidity indicators to analyze conditions with specific diseases or groups of diseases, including the ethyology factors								
institute, chair, department) Department of Epidemiology and Biostatistics with Medical Informatics department) 5. Degree of education (first, second, third cycle) Integrated 6-year studies 6. Academic year/semester Year Third (III) Semester 7 ECTS credits 5 8. Professor (when more professors, responsible professor is assigned) Prof. Vesna Velic Stefanovska MD PhD - responsible professor *Lectures held by the professors from the Department of Epidemiology and Biostatistics with Medical Informatics 9. Language of the study English Preconditions for attending the classes and taking the subject's exam Preconditions for attending the classes is passed exam Biostatistics with Medical Informatics. To take the final exam, the student must pass the continuous tests or acquire a minimum of 30% of total number of points in the continuous tests, whereas during the exams session the student shall take the previously failed continuous tests, and then shall take the final exam. Active participation (points) 10. Subject program goals (competences) and study results: Acquiring of theoretical and practical knowledge from the area of epidemiological problems and challenges as well as their prevention. Acquiring of skills which will use mortality and morbidity indicators to analyze conditions with specific diseases or groups of diseases, including the ethyology factors for their occurrence. Recognition of the role and meaning of the levels of prevention and their application in p	3.	Study program						
department) Integrated 6-year studies 5. Degree of education (first, second, third cycle) Integrated 6-year studies 6. Academic year/semester Year Third (III) Semester Sixth (VI) 7 ECTS credits 5 Professor (when more professors, responsible professor is assigned) Prof. Vesna Velic Stefanovska MD PhD - responsible professor *Lectures held by the professors from the Department of Epidemiology and Biostatistics with Medical Informatics 9. Language of the study subject's exam English 10. Preconditions for attending the classes and taking the subject's exam Preconditions for attending the classes is passed exam Biostatistics with Medical Informatics. 10. Subject program goals (competences) and study results: • Acquiring of teoretical and practical knowledge from the area of epidemiological problems and challenges as well as their prevention. 11. Subject program goals (competences) and study results: • Acquiring of skills which will use mortality and morbidity indicators to analyze conditions with specific diseases or groups of diseases, including the ethyology factors for their occurrence. • Acquiring of skills which will use mortality and morbidity indicators to analyze conditions with specific diseases or groups of diseases, including the ethyology factors for their occurrence.	4.							
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 of diseases, including the ethyology factors for their occurrence. Recognition of the role and meaning of the levels of prevention and their application in practice. 								
Recognition of the role and meaning of the levels of prevention and their application in practice.								
Acquiring knowledge of the epidemiological methods and their			• Acquiring knowledge of the epidemiological methods and their					
implementation in the scientific research.								
 Acquiring of knowledge of epidemiology of infectious and 						tious and		
noninfectious diseases and conditions.			noninfectious dise	eases and condit	tions.			
12. Subject content in Content of the study program:	12.	Subject content in	Content of the study prog	gram:				
details by chapters Theoretical course:								
and units, with study		and units, with study						

	results for every chapter	contem Epiden Indicat Epiden Occurr Measu Epiden Immur Elimin Desinf Health Intraho Epiden emerge	niological characteristics of intestinal, respira	eath rate; ls 'laxis ate of	
		contactEpidenEpiden	and transmissive infectious diseases niological characteristics of zoonosis and help niological characteristics of noncommunicabl alth deterioration.	mintosis	
		 Practical Course: Application of epidemiological methods in practice Processing of samples from various types of epidemics – resolving of an invented case of epidemics Acquainting with books of rules, and laws from the area of epidemiology Mastering the acquired theoretical knowledge 			
13.	Interconnection between subjects	Signature from	bjects in the study program. his subject provides attendance to VII semes obligated for Public Health-Clinical Practice		
14.	Description of the subject's study and working methods in details		ning, practical course, seminars		
15.	Total available time frame	150 hours			
16.	Forms of teaching activities	16.1. 16.2. 16.3.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	40 35	
17.	Other forms of activities	17.1. 17.2. 17.3.	Project tasks: hours Individual tasks: hours Studying at home: hours	75	
18.	Requirements for signature	•	ature, the student needs to acquire minimum minars, theoretical and practical courses.	points from	

				the subject is established				
	- -	-	marks, based on the sum of points from all activities, continuous tests and final exam.					
19.		of assessment			1			
	19.1.	Tests: points			Continuous te knowledge (m consists of 2 w Points min/ m	id-term) vritten tests		
	19.2.	Seminar pape points	er/project, written an	d oral presentation:	Seminar work			
	19.3.	Final exam: p	points		Oral part points min/m			
20.	Grading	criteria (point	s/grade)	Up to 59 points		5 (five) (F)		
	0		0 /	From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		7 (seven) (D)		
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points	10 (ten) (A)			
21.	Methods of monitoring the quality of the teaching process			Anonymous evaluation by students on the subject, teaching staff, and associates participating in the teaching.				
	Literatur	·e						
		Mandatory li						
	22.1.	Number	Author	Title	Publisher	Year		
		1.	Buring JE, Hennekens C	Epidemiology in medicine	Boston: Little, Brown and Company	1987		
		2.	Banatvala N, Bovet P	Noncommunicable Diseases A Compendium	London: Routledge	2023		
22.		3.	Abubakar I, Cohen T, Rodrigues LC	Infectious Disease Epidemiology	Oxford University Press	2016		
		Additional lit	erature					
		Number	Author	Title	Publisher	year		
	22.2.	1.	Gordis L.	Epidemiology. 6th edition.	Philadelphia: Saunders	2018		
		2.	Beaglehole R, Bonita R, Kjellstrom T.	Basic Epidemiology, 2nd edition	Geneva: World Health Organization	2007		

Nun	nber:34	
Atta	achment 3	Integrated cycle of studies – Subject program
1.	Subject	PHARMACOLOGY

2.	Code	MED 323				
3.	Study program	General Medicine				
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Medical Faculty, Department of Preclinical and Clinical Pharmacology with Toxicology				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year	Third (III)	Semester	Sixth (VI)	
7	ECTS credits	7			•	
8.	Professor (when more professors, responsible professor is assigned)	Prof. Dimche Zafirov PhD, *Lectures held by all profes Clinical Pharmacology with	sors from the De		clinical and	
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: Passed exams: Biochemistry 1 and Physiology 2 Signature: Pathology 1 and Pathophysiology 2 In order to take the final exam, the student should obtain the minimum				
		points in the three continual If the student has not of assessments, he/she will be The grade in the final exam the basis of the sum of poin	otained the min obligated to pas is given accordi	s them before thing to the gradin	e final exam. g table, and on	
11.	Subject program goals (competences) and study results:	 Introduction to phate Introduction to phate Introduction to phate Introduction to phate Achieving basic lase Achieving basic lase body and the import of drugs. Acquiring basic lase Acquiring basic lase Treatment of addict Understanding the lase Acquiring knowled pharmacodynamic students will lear understanding of al 	armacodynamic anism, modes of cnowledge of p cerned with the tance of knowin cnowledge about their importance tion and drug about basic principles of dge of special groups and their n how to prese	characteristics of action of drugs harmacokinetic, movement of o g the pharmacol t toxicology an in the developm use of pharmacology, therapeutic area cribe medicines	od drugs, how a upon the body. , the branch of drugs within the cinetic properties and toxicological nent of drugs etics in meaning of s.	
12.	Subject content in details by chapters and units, with	 Theoretical course: General Principles How drugs act: 	general principlo bliferation, apop	es, molecular as		

	study results for		okinetics of drugs (absorption, dis	stribution,		
	every chapter		sm and elimination of drugs) al variation, pharmacogenomics a	nd personalised		
			ors and the autonomic nervous sy	stem		
		Drug addiction				
		-				
			nervous system,			
		– psychop	bharmacology,			
		-	ory system,			
			ascular system,			
		– hematol				
		_	e system,			
		– urinary	system, es, vitamins,			
			robial drugs.			
			linical Toxicology (separation of	toxins, general		
			oning, treatment and specific trea			
		Practical classes:	Practical classes:			
		Pharmacography				
		Pharmaceutical dosage forms				
		Demonstrating ex	sperimental models: in vitro and i	n vivo.		
13.	Interconnection	Related to all subject	s in the study program.			
	between subjects	0	cology is precondition for taking t	the classes of any		
14		subject from the seve		1 .		
14.	Description of the subject's study	Interactive teaching of	luring lectures, practical trainings	and seminars.		
	and working					
	methods in details					
15.	Total available	210 classes				
	time frame			1		
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	55		
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	50		
		16.3.	Practice: hours			
	Other forms of	17.1.	Project tasks: hours			
17.	activities	17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	105		
18.	Requirements for signature		ature, the student should obtain m practical courses, and to present a	*		
		Active participation	points)			
		Theoretical course		$\frac{\min - \max}{1.8 - 3}$		

			Practical cours	se			4.2 – 7
19.	Methods	of assessme	ent				
171	19.1.	Tests: poi		Conti	nual assessment - point	5	min - max 24 - 40
				Г –	nual assessment of knowle wo written tests Basic pharmacology Special pharmacology	(min 12, r	nax 20 points) nax 20 points)
				inten conti	student is obligated to ded points for each part of nual assesment. rwise the final exam is con	of the assessm	ent to pass the
	19.2.	2. Seminar paper/project, written and oral presentation: points					
	19.3.				examination* ical examination**	points points	$\begin{array}{c} \min-\max\\ 24-40\\ 6-10 \end{array}$
				of w pharm	l examination (integrative hich the integrative k nacology is assessed, standing the subject.	nowledge in	the field of
				and pl The s intend	actical examination (cata harmaceutical dosage forr tudent is obligated to ac led points for each part of nual assesment. Otherwise	n. hieve a minir of the assessme	num of the ent to pass the
20	Grading c	riteria (poin	ts/grade)	Talleu	Up to 59 points		5 (five) (F)
					From 60 to 68 points From 69 to 76 points		6 (six) (E) 7 (seven) (D)
					From 77 to 84 points		$\frac{7 \text{ (seven) (D)}}{8 \text{ (eight) (C)}}$
					From 85 to 92 points		9 (nine) (B)
		<u> </u>			From 93 to 100 points		10 (ten) (A)
21.	Methods of teaching p		ng the quality of	the	Student anonymous eva teachers and associates		
	Literature				teachers and associates	Januerpaung II	
		Mandatory	/ literature				
22.		Number	Author		Title	Publisher	Year
22.	22.1.	1.	Rang and Dale Rang HS, Dale Ritter JM, Flov	еMM,	Pharmacology, Ninth edition	New York: Elsevier	2020

	2.	Department of pharmacology and toxicology	Authorized lectures		2023		
	3.	Katzung BG, Kruidering-Hall M, Trevor AJ.	Pharmacology, Examination & Board Review, 12th Edition	Chicago: Mc Graw-Hill Education, LANGE	2019		
	Additional literature						
	Number	Author	Title	Publisher	Year		
22.2.	1.	Brunton LL, Lazo JS, Parker KL	Goodman & Gilman's The Pharmacological Basis of Therapeutics	Chicago: Mc Graw- Hill Education	2018		

Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	TRANSFUSIOLOGY				
2.	Code	MED 324				
3.	Study program	General Medicine				
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Transfusiology				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year	Third (III)	Semester	Sixth (VI)	
7	ECTS credits	2				

0						
8.	Professor (when more	Prof. Tatjana Makarovska Bojadjieva - responsible professor				
	professors, responsible	*Lectures held by the professors from the Department of				
	professor is assigned)	Transfusiology				
9.	Language of the study	English				
	Preconditions for	Preconditions for attending the classes:				
	attending the classes and	Passed exams: Biochemistry 1, Physiology 2				
10	taking the subject's exam	Signature: Pathology 1, Pathophysiology 2				
10.	8 0	In order to take the final exam, the studen				
		should obtain the minimum points in the				
		continual assessment.				
11.	Subject program goals	To understand fundamentals of laboratory and clinical				
	(competences) and study	transfusion medicine				
	results:	To promote voluntary non-remunerated blood donation				
	i csuits.					
		• To make distinction between different types of blood				
		products, their indications, dosing and adverse effects				
		• To be able to perform and interpret blood grouping results				
		 To solve serologic discrepancies 				
		• To solve compatibility problems in pre-transfusion testing				
		• To possess knowledge in prenatal and postnatal				
		immunohematology diagnostic and to be able to give				
		adequate advice concerning all the aspects of RhD				
		prophylaxis				
		• To be aware of the need and the tools for quality				
		assessment of blood products, as well as of transfusion medicine laboratory testing				
		 To be able to interpret coagulation testing results in terms 				
		of diagnosis or adequte substitution of blood products or				
	~ ~ ~ ~ ~ ~	appropriate dosage of antithrombotic drugs				
12.	Subject content in details	1. Blood donation				
	by chapters and units,	Recruitment of voluntary non-remunerated donor				
	with study results for	Donor eligibility and criteria for donor acceptability				
	every chapter	• Types of blood donation-donation of homologous and				
		autologous blood, donor apheresis				
		2. Blood collection				
		Overview of anticoagulants and additive solutions				
		Blood collection bags-overview				
		C C				
		Blood collection area				
		Donor identification				
		• Venepuncture				
		Taking the donation of whole blood				
		Apheresis blood donation				
		Donor care				
		Adverse reactions to blood donation				
		 Donor records 				
		 Handling of collected units of blood 				
		3. Blood processing				
		Concept of blood components				
		Types of blood components-overview				

Blood processing equipment and principles of
centrifugation
• Preparation of blood components (red cell concentrate,
plasma, platelet concentrate) and their modification
(leucoreduction and irradiation)
 Labeling of blood components
Storage conditions and transportation
Quality control
Overview of plasma fractionation
4. Immunohematology
Blood group systems (blood group terminology)
ABO and H blood group systems (Inheritance, antigen
frequencies, production of ABO antigens, H-deficient
phenotypes, subgroups within the ABO system, ABO
system antibodies, ABO grouping, clinical significance of
ABO system)
• Rh blood group system (Rh genetics and inheritance, Rh antigens, Rh typing, clinical significance of Rh system)
 Other major blood group systems (I, P, MNS, Kell, Duffy,
Kidd, Lewis, Lutheran)
Additional blood group systems
5. Principles of immunohematology laboratory techniques
• Antigen-antibody reactions (haemagglutination,
sensitization, haemolysis, neutralization, precipitation)
• Factors that influence antigen-antibody reaction
(proteolytic enzymes, high molecular mass substances, low
ionic strength solution)
Role of complement
Role of antihuman globulin
Polyclonal and monoclonal antibodies
General immunohaematologic techiques (saline, indirect and direct anti-labulin text any group)
and direct antiglobulin test, enzyme)Microcolumn techniques
 Molecular technology (genomic amplification techniques,
polymerase chain reaction)
 ABO/Rh and other red cell antigen typing
 red cell antibody screening and identification
Antibody titration and quantification
Antibody neutralization
Antibody adsorption/elution
Automation
Causes of false or discrepant results in serologic tests
6. Compatibility testing
Concepts of crossmatching
Patient and sample identification
Selection of compatible blood units
Laboratory investigation of incompatible blood transfusion
Issue of blood

	7. Blood donation testing and blood safety
	÷ ,
	Red cell serology testingTransfusion transmissible infections (human
	• Iransfusion transmissible infections (numan immunodeficiency virus, hepatitis B, C and E virus, other
	transmissible infections)
	 Testing strategies (serological testing, nucleic acid
	amplification testing, window periods, testing algorithms)
	8. Haemolytic disease of the fetus and newborn (HDFN)
	 Causes, diagnosis and treatment of HDFN
	 Prevention of HDFN caused by ant-D
	 Antenatal testing and interventions to improve prognosis
	 Postnatal testing and interventions to improve prognosis Postnatal testing and interventions to treat anemia and
	hyperbilirubinaemia
	Hemolytic anemias-laboratory diagnosis
	 Transfusion in autoimmune haemolytic anaemia (warm,
	col, drug induced haemolytic anaemia)
	9. Clinical transfusiology
	 Clinical benefits of blood transfusion
	 Transfusion of patients with special needs (neonatal
	patients, patients on chemotherapy, patients for
	transplantation, patient with chronic or severe anemia,
	patients with rare blood groups)
	Massive transfusion
	• Transfusion risks and adverse reactions (haemolytic,
	allergic, febrile reactions, sepsis, transfusion associated
	acute lung injury, circulatory overload, citrate, potassium
	and iron toxicity, transfusion associated graft versus host
	reaction, transmission of infectious disease,
	alloimmunization)
	Hemovigilance of donors and recipients (monitoring,
	evaluation and reporting)
	Hospital transfusion committees
	Alternatives to blood transfusion
	10. Laboratory diagnosis and treatment of thrombotic and
	hemorrhagic disorders
	Coagulation and fibrinolytic system
	• Overview of screening hemostasis tests (preanalytical
	variables, methods, interpretation of the results)
	Tests for the fibrinolytic system
	Platelet function tests
	Viscoelastic methods for screening hemostasis
	• Laboratory diagnosis of thrombotic and hemorrhagic
	disorders (thrombophilia and hemophilia testing)
	Laboratory monitoring of anticoagulant and antiplatelet
	drugs
13. Interconnection between	Related to all subjects in the study program.
subjects	Signature from this subject provides attendance to VII semester

14.	Descripti	ion of the	Theoretical and practical lessons, individual tasks (problem solving					
		study and	practice), seminars.					
15		methods in details	60 hours					
15.		ailable time frame	60 hours	T		10		
16.	Forms of activities	fteaching	16.1.	Lessons – theoretical less Practical lessons (laborate		<u>18</u> 12		
	activities		10.2.			12		
			16.3.	auditory), seminars, team work: hours Practice: hours				
	Other fo	rms of activities	17.1.	Project tasks: hours		8		
17.			17.2.	Individual tasks: hours		7		
			17.3.	Studying at home: hours		15		
18.	Requirer	nents for		d active participation of the	e students in the			
10.	signature			aching. Oral presentation of				
19.		of assessment	1	0 1	1	5		
	19.1.	Tests: points			Continual ass	essment		
						22-34		
	19.2.		oject, written ar	nd oral presentation:		9-30		
	10.2	points			T ! 1	22.26		
	19.3.	Final exam: points		1	Final exam	23-36		
20.	Grading	criteria (points/gra	de)	Up to 59 points		5 (five) (F)		
				From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points				
				From 77 to 84 points				
				From 85 to 92 points		9 (nine) (B)		
21	N/ - 411	· • • · · · · · · · · · · · · · · · · ·		From 93 to 100 points	£	10 (ten) (A)		
21.	teaching	of monitoring the q	luanty of the	y of the Interactive participation of students in theoretical and practical teaching (case reports, problem				
	teating	process		solving-exams)				
	Literatu	re						
		Mandatory literat	ure					
		Number	Author	Title	Publisher	Year		
		1.	European Committee	Guide to the preparation, use and	Council of	2019		
			on Blood	quality Assurance of	Europe			
	22.1.		Transfusion	Blood Components				
22.		2.	Bromilow I,	Essential gide to blood	New Jersey:	2015		
<i>LL</i> .			Daniels G	groups	Wiley			
					Blackwell			
		3.	Maitta RW	Clinical principles of	New York:	2018		
				transfusion medicine	Elsevier			
		Additional literate	ure					
	22.2.	Number	Author	Title	Publisher	year		
		1.	Barbeau JM	Risk management in	New York:	2019		
	1.			transfusion medicine	Elsevier			

N	lumber:36					
	achment 3	Integrate	ed cycle of stud	ies – Subjec	ct program	
1.	Subject		AL MEDICIN	E		
2.	Code	MED 411				
3.	Study program	General Medicine				
4.	Institution (unit, institute, chair,	Ss Cyril and Methodius University in Skopje, Faculty of				
	department)	Medicine, Department of Internal Medicine				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year	Fourth (IV)	Semester	Seventh (VII), Eighth (VIII)	
7	ECTS credits	20.5				
8.	Professor (when more professors, responsible professor is assigned)	Assistant Professor Beti Todorovska, MD, PhD - responsible professor *Lectures held by the professors from the Department of Internal Medicine				
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: requirement met for the VII th semester. In order to take the final exam, the student should obtain the minimum points from all continual assessments				
11.	Subject program goals (competence):	 The student is required to learn and master the skills in the framework of rational diagnostics and modern treatment, incorporated in the disease etiopathogenesis and clinical pharmacology postulates. The student shall be able to perform rational clinical assessments and to treat diseases of the heart and blood vessels, lungs, endocrine lymph glands, renal, hematologic and toxicological diseases and disorders. The student must learn to base the modern clinical assessment on a rational diagnosis, especially in the segment of clinical examination, and later to rationally apply targeted paraclinical examinations. The student must learn how to center modern rational treatment on the momentarily best evidence and therapeutic findings, based on evidence based medicine. 				
12.	Subject content	Theoreti	cal course:			
		•	Diseases and Diseases an system Diseases and Diseases and tissue	l disorders o d disorders l disorders o l disorders o	f the cardiovascular system f the respiratory system of the gastrointestinal f the urinary system f the joints and conncetive f the endocrine glands and	

13.	Interco subject	onnection between s	metabolism • Diseases and disorders of the hematological system • Toxicologic conditions and disorders Practical course: • Mastering of clinical skills and practical application of the acquired theoretical knowledge. Related to all subjects in the study program Passed subject provides attendance to Internal Medicine Clinical Practice and Internal Medicine Seminars, Geriatric			
14.		otion of the subject's nd working methods in	Medicine and Palliative Medicine. Interactive lectures, seminars and practical application of the acquired theoretical knowledge.			ctical application of the
15.	Total a	vailable time frame	615 hou	ırs		
16.	Forms of teaching activities		16.1	Lectures – theor teaching		160 hours
			16.2	Practice, Semina	ars	195 hours
17.	Other f	forms of activities	17.1	Practice		
			17.2	Individual assig	nments	
			17.3	Studying at hom	ne	260 hours
18.	Requirements for signature		Attendance at theoretical lectures and practical teaching, as well as passed tests.			
19.	Metho	d of assesment				points
	19.1.	Continuous assessments	min. – max.Continuous assessmentspoints $8,8 - 16$ Continuous assessments cover all areas of internal medicine in various combinations, depending on the group in which the students attend, as well as the current schedule.			
				ach area, the stude t areas – four tests		in 1,1 – 2,0 points (a total
	19.2.	Seminar paper/project/ presentation:				min. – max.
	19.3.	Final exam: points	Practica Oral pa	rt [*] *	points points	min. – max. 14 – 26 24,2 – 38
			Practical part* (in accordance the skills catalogue) – patient exam, differential diagnosis, treatment			
			knowle		hich is integ	on which integrative ral for comprehension of ctice.
	19.4.	Active participation		tical teaching* al teaching**	points points	min. – max. 1 – 5 12-15

20.	Gradir	ng criteria	(points/grade)	* Attendance at lectures: 51-60% - 1 point; 61%-70% - 2 points; 71% - 80% - 3 points; 81% - 90% - 4 points; 91%- 100% - points ** Practical teaching 50 practice exercises attendance: 0,1 point, active participation 0,2 points Up to 59 points 5 (five) (From 60 to 68 points 6 (six) (From 77 to 84 points		
	Methods of monitoring the			From 85 to 92 points From 93 to 100 points		9 (nine) (B) 10 (ten) (A)
21.			toring the ching process	Student anonymous eva associates participating		5
	Literat	ture Mandatory literature				
	22.1.	Number	Author	Title	Publisher	Year
		1.	Loscalzo J. et al.	Harrison's Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022
		2.	Goldman L, Ausiello D.	Goldman-Cecil Medicine, 27 th edition	New York:Elsivi er	2023
		Addition	al literature			
22.		Number	Author	Title	Publisher	Year
	22.2.	1.	Georgievska Ismail Lj, Poposka L, Trajkov I, Gjorgov N.	Electrocardiography	(COIBSS. mk – ID7183412 2):	2008
		2.	Grozdanovski R, Ivanovski N.	Chronic Renal Disease – Prevention, Clinical Manifestation and Treatment Skopje	(COIBSS. MK – ID7351501 8)	2008

Atta	chment 3	Integrated cycle of studies – Subject program
1.	Subject	INFECTOLOGY
2.	Code	MED 412
3.	Study program	General Medicine
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Medical Faculty, Department
	institute, chair,	of Infectology
	department)	

5.	Degree of	Integrated	6-year studies						
	education (first,	integrated	o yeur studies						
	second, third								
	cycle)								
6.	Academic	Year	Fourth (IV)	Semester	Seventh (VII)				
	year/semester								
7	ECTS credits	7							
8.	Professor (when	Associate	Prof. Marija C	vetanovska, PhD, I	MD - responsible professor				
	more professors,				epartment of Infectology				
	responsible								
	professor is								
	assigned)								
9.	Language of the	English							
	study								
	Preconditions			ng the classes: crite	eria meet for enrollment of the				
	for attending the		seventh semester.						
10.	classes and		In order to take the final exam the student has to pass the continuous						
	taking the	assessment.							
	subject's exam								
11.	Subject program				d use the learned knowledge for				
	goals				eatment and prevention of				
	(competences)	infectious diseases.							
	and study	• The students will learn to make a rational clinical judgment for							
	results:	recognizing infectious diseases in different, mostly expected							
				escribe a proper tre	atment.				
12.	Subject content	Theoretic							
	in details by				e term infection and anti-infective				
	chapters and				genesis of infectious diseases,				
	units, with study				nt, anti-infective therapy				
	results for every			by, antiviral therapy	v, anti-parasitic therapy,				
	chapter		itifungal	ainlas of immuna	non hylowig)				
				nciples of immune					
				gy: introduction of	basic syndromes with infectious				
			iology, traduction of th	e specific bacteria	l, viral, parasitic, and fungal				
			fections and	ie specifie bacteria	i, vitai, parasitie, and fungai				
				hasic knowledge o	f infections in special hosts,				
					cognizing, treatment and				
				socomial infection					
		P*							
		Practical	course:						
				lls and usage of th	e acquired theoretical knowledge				
13.	Interconnection	_		the study program.					
	between subjects			-7 1-08-011					
14.	Description of	Interactive	e teachingdurin	g lectures and prac	tical trainings, seminars				
	the subject's		0	C 1					
1	J J	1							
	study and								

	methods i details	n					
15.	Total avai time fram		210 hours				
16.	Forms of		16.1.	Lessons – theoretical les	ssons, hours	45 hours	
	teaching		16.2.	Practical lessons (labora	tory, auditory),	60 hours	
	activities			seminars, team work: he			
			16.3.	Practice: hours			
	Other for	ms of	17.1.	Project tasks: hours			
17.	activities		17.2.	Individual tasks: hours			
			17.3.	Studying at home: hours			
18.	18. Requirements for signature Obligatory criteria: In order to get a professor's signature the stude practical studies, as well as seminars and to ga In order to take the final exam the student has assessment (General infectology). During the example the previously failed Continuous assessments (infectology) and then continue to the final example the grade/score for the entire example obtained a based on the sum of the points gained in all the a				e the students has to attend and to gain minimum poin udent has to pass the conti- uring the exams the studen essments (colloquium in g e final exam.	nts. nuous ts has to pass eneral e of grades and	
19.	Methods	of assessi		s and final exam.			
	19.1. Tests: po		points		Continual assessment* max points Continual assessment General Infectology (for mark 10=19-20 point 9=17-18 points; for mar points; for mark 7=13-1 mark 6=12 points	nts; for mark k 8=15-16	
	19.2.	present	ation: points				
			participation		min-max Theoretic lectures* 1-2,5 Practical lectures** 5-7,5 * presence in the theoret 51%-60% 1 point 61%-70% 1,5 point 71%-85% 2 points 86%- 100% 2,5 point	ts	

	19.3.	Final exam: points		Final exam: final test + practical
	17101	i mui entaini pointe		examination +oral examination
				points
				min-max
				1. Final test *
				9 - 15
				2. Practical examination**
				9 - 15
				3. Oral examination***
				24-40
				* Final test – to assess students'
				knowledge in infectology- special
				Infectology (for mark 10=14,5-15
				points; for mark 9=13-14 points; for
				mark 8=11,5-12,5 points; for mark
				7=10-11 points; for mark 6=9-9,5
				points)
				** Practical examination (according
				to a catalogue of skills): examination
				of the patients, diagnosis, differential
				diagnosis, therapy (for mark 10=14,5-
			15 points; for mark 9=13-14 points; for	
				mark 8=11,5-12,5 points; for mark
				7=10-11 points; for mark 6=9-9,5
				· · ·
				points)
				*** Oral examination (integrated)- 4
				questions in which the integrated
				knowledge of the student is checked
				on matters of understanding the subject of infectious diseases as a whole as
				well as the practical medical routine in infectious diseases
				(for mark $10=38-40$ points; for mark $0=25, 27$ points); for mark $8=22, 24$
				9=35-37 points); for mark 8=32-34
				points); for mark 7=28-31 points; for
				mark 6=24-27 points)
				Students are obliged to score the
				predicted minimum of the projected points for each section of the exam so
				that the points can be transferred for the
				final exam; otherwise they will fail the
				test.
20.	Grading	riteria	Up to 59 points	5 (five) (F)
20.	(points/gr		From 60 to 68 points	6 (six) (E)
	(hours &	autj	From 69 to 76 points	7 (seven) (D)
			From 77 to 84 points	
			From 85 to 92 points	8 (eight) (C) 9 (nine) (B)
			From 93 to 100 points	
			FIGHT 95 to 100 points	10 (ten) (A)

21.		ls of monito of the teac	0	Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors enrolled in the subject studies.				
	Literat	1						
		Mandatory literature						
		Number	Author	Title	Publisher	Year		
	22.1.	1.	Cohen J, Powderly WG, Opal SM.	Infectious Diseases, 4 th edition	New York: Elsevier	2017		
		2.	Bennett JE, Dolin R, Blaser MJ	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases	New York: Elsevier	2019		
22.		Additiona	l literature		•			
		Number	Author	Title	Publisher	Year		
	22.2.	1.	Dimitriev Dimitar, Ivanovski Ljubomir, Milenkovi c Zvonko, Grunevsk a Violeta, Topuzovs ka Irena, Stojkovsk a Snezana.	Infectious Diseases	Ss Cyril and Methodius University in Skopje, Medical Faculty	2012		

Nun	Number:38							
Attachment 3		Integrated cycle of studies – Subject program						
1.	Subject	NEUROLOGY						
2.	Code	MED 413						

3.	Study program	General Medicine						
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Medical Faculty, Department of Neurology						
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies						
6.	Academic year/semester	Year Fourth Gemester Seventh (VII)						
7	ECTS credits	6	(- •)					
8.	Professor (when more professors, responsible professor is assigned)	Prof. Emilija Cvetkovska, PhD, MD - responsible professor *Lectures held by the professors from the Department of Neurology						
9.	Language of the study	English						
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: fullfilled condition for VII semester. In order to take the final exam, the student should obtain the minimum points from the continual assessment.						
11.	Subject program goals (competences) and study results:	 In order to take the mar exam, the student should obtain the minimum points from the continual assessment. knowledge and skills for neurological symptoms knowledge and skills for recognizing and interpreting neurological signs. knowledge and skills for neurological diseases (epidemiology, pathophysiology, etiology, classification, diagnostic procedures, differential diagnosis, treatment options, prognosis) Knowledge, skills, and competences in diagnosing neurological diseases and disorders. Knowledge, skills, and competences in the use of different diagnostic procedures (laboratory of blood and csf, neurophysiological methods, imaging methods, neuropsychological methods, genetic tests) for rational diagnosis of neurological diseases and disorders Knowledge, skills and competences in management and treatment of neurological diseases and disorders Knowledge, skills, and competences in communication with patients, families and care givers Knowledge, skills, and competences in communication with the second and treatment of neurological diseases Knowledge, skills, and competences in communication with the second and treatment of neurological diseases Knowledge, skills, and competences in communication with the second and treatment of neurological diseases Knowledge, skills, and competences in communication with the second and treatment of neurological diseases 						
12.	Subject content in details by chapters and units, with study results for every chapter							

 Epilepsy and disorders of consciousness Derangements of Intellect, Behavior, and Language Caused by Diffuse and Focal Cerebral Disease Disorders of Energy, Mood, and Autonomic and Endocrine Functions Neurodevelopmental disorders and neurology of aging Disturbances of cerebrospinal fluid Neoplasms and paraneoplastic neurological diseases Infections of the nervous system Stroke and cerebrovascular diseases Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the peripheral nerves
 Diffuse and Focal Cerebral Disease Disorders of Energy, Mood, and Autonomic and Endocrine Functions Neurodevelopmental disorders and neurology of aging Disturbances of cerebrospinal fluid Neoplasms and paraneoplastic neurological diseases Infections of the nervous system Stroke and cerebrovascular diseases Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the spinal cord Diseases of the peripheral nerves
 Functions Neurodevelopmental disorders and neurology of aging Disturbances of cerebrospinal fluid Neoplasms and paraneoplastic neurological diseases Infections of the nervous system Stroke and cerebrovascular diseases Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the peripheral nerves
 Disturbances of cerebrospinal fluid Neoplasms and paraneoplastic neurological diseases Infections of the nervous system Stroke and cerebrovascular diseases Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the spinal cord Diseases of the peripheral nerves
 Neoplasms and paraneoplastic neurological diseases Infections of the nervous system Stroke and cerebrovascular diseases Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the spinal cord Diseases of the peripheral nerves
 Infections of the nervous system Stroke and cerebrovascular diseases Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the spinal cord Diseases of the peripheral nerves
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 Craniocerebral trauma Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Diseases of the spinal cord Diseases of the peripheral nerves
 Multiple sclerosis and other inflammatory demyelinating diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 diseases Inherited metabolic diseases of the nervous system Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 Developmental diseases of the nervous system Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 Degenerative diseases of the nervous system Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 Acquired metabolic disease of the nervous system Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 Diseases of the nervous system caused by nutritional deficiency Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 Disorders of the nervous system caused by alcohol, drugs, toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
 toxins, and chemical agents Disease of the spinal cord Diseases of the peripheral nerves
Disease of the spinal cordDiseases of the peripheral nerves
Diseases of the cranial nerves
Diseases of the muscles
Diseases of the neuromuscular junction
13. Interconnection between subjectsRelated to all subjects in the study program.
14. Description of theTheoretical lessons, seminars, practice, project presentations, individual
subject's study and learning
working methods in
details
15. Total available time 180 frame
16.Forms of teaching16.1.Lessons – theoretical lessons, hours33
activities 16.2. Practical lessons (laboratory, 64
auditory), seminars, team work:
hours
16.3. Practice: hours
Other forms of activities17.1.Project tasks: hours17.Individual tasks: hours10
17.3.Studying at home: hours7318.Requirements forParticipation in all of the planned activities
signature
19. Methods of assessment
19.1. Tests: points 15-25
19.2.Seminar paper/project, written and oral10-15
presentation: points

	19.3.	Final e	exam: points			35-60	
20.	Grading crit	eria (point	s/grade)	Up to 59 points		5 (five) (F)	
	C		C ,	From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
				From 93 to 100		10 (ten) (A)	
				points			
21.			the quality of	Student anonymous ev			
	the teaching	process		teachers and associates	s participating in	n the teaching.	
	Literature						
		Mandato	ory literature				
		Number	Author	Title	Publisher	Year	
		1.	Ropper AH, Samuels MA, Klein J, Prasad S	Adams and Victor's Principles in neurology	Chicago: Mc Graw- Hill Companies Inc.	2019	
22.	22.1.	2.	Roger S, Aminof M, Gringerb D	Clinical neurology	Chicago: Mc Graw- Hill Companies Inc.	2020	
		3.	Daroff R, Jankovic J, Mazziotta J, Pomeroy S	Bradley's Neurology in clinical practice	Oxford: Butterworth- Heinemann	2015	
		Addition	al literature				
		Number	Author	Title	Publisher	year	
	22.2.	1.	ED Louis, SA Mayer, Jm Noble	Merritt's Neurology	Lippincott, Williams and Wilkins (LWW)	2021	

N	lumber:39	
Atta	ichment 3	Integrated cycle of studies – Subject program
1.	Subject	DERMATOVENEROLOGY
2.	Code	MED 414

3.	Study program	General Medicine						
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Faculty of Medicine,						
••	institute, chair,	Department of Dermatology						
	department)							
5.	Degree of education	Integrated 6-year studies						
	(first, second, third							
	cycle)							
6.	Academic year/semester	Year Forth (IV) Semester Seventh (VII)						
7.	ECTS credits	5						
8.	Professor (when more	Prof. Suzana Nikolovska, PhD, MD - responsible professor						
	professors, responsible	*Lectures held by all professors from the Department of Dermatology						
	professor is assigned)							
9.	Language of the study	English						
	Preconditions for	Preconditions for attending the classes: fullfieled conditions of						
10	attending the classes and	enrollement in VIIth semester						
10.	taking the subject's	In order to take the final exam, the student should obtain the						
	exam	minimum points in the continual assessment.						
11.	Subject program goals	• The student will acquire knowledge about the basic concepts of						
	(competences) and study	structure, the function and morphological changes of the skin as						
	results:	well as diagnostic and therapeutic modalities in						
		dermatovenereology						
		• The student will acquire knowledge about the most common and						
		urgent dermatology diseases, as well as sexually transmitted						
		infections						
		• The student will have the skills to recognize the most common and						
		urgent conditions in dermatovenerology and create diagnostic and						
		rational therapeutic protocol.						
		• The student will be aware of the importance of taking proper						
		dermatovenerological history, communication and collaboration						
		with the patient and his family						
		• The student will be aware of the importance of prevention and						
		promotion in dermatovenereology						
12.	Subject content in	Theoretical course:						
	details by chapters and	• Structure and function of the skin, morphology of skin lesions						
	units, with study results	Treatment principals in dermatovenerology						
	for every chapter	• Infections and infestations, STI						
	v I	Emergency conditions in dermatology						
		Inflammatory skin disorders						
		• Diseases of nail, hair and pigmentation						
		Reactive skin diseases						
		 Skin signs of systemic diseases 						
		 Drug reactions 						
		Neoplasms						
		Practical course:						
		Practicing the clinical skills and practical application of the acquired						
		theoretical knowledge on real patients.						
13.	Interconnection between	Related to all subjects in the study program.						
10.	subjects	renated to an subjects in the study program.						
L	subjects	I						

14.	subject's	on of the study and methods in	Interactive teaching during lectures, seminars and practical trainings, independent study by using textbooks, computer-assisted learning					
15.	Total ava frame	ilable time	150 classes	5				
16.	Forms of	teaching	16.1.	Lessons – theoretical lesso	ons, hours	25		
	activities		16.2.	Practical lessons	,	40		
				Seminars		15		
			16.3.	Practice: hours				
	Other for	ms of activities	17.1.	Project tasks: hours				
17.			17.2.	Individual tasks: hours				
			17.3.	Studying at home: hours		70		
18.	Requiren signature		80% presence during theoretical and practical lessons			ns		
19.	Methods	of assessment						
	19.1. Tests: points				18-30	18-30		
	19.2.	Seminar paper/j points	project, writt	ten and oral presentation: 0-5				
	19.3.	Final exam: poi	nts					
20.	Grading	criteria (points/g	rade)	Up to 59 points		5 (five) (F)		
	(points, grand)			From 60 to 68 points	6 (six) (E)			
				From 69 to 76 points		7 (seven) (D)		
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points	9 (nine) (B)			
				From 93 to 100 points	10 (ten) (A)			
21.		of monitoring the						
		ching process		teachers and assistants.				
	Literature							
		Mandatory liter	rature					
		Number	Author	Title	Publisher	Year		
	22.1.	1.	Wolf K, Johnson	Fitzpatrick's Color Atlas and Synopsis	Chicago: Mc Graw	2009		
22.	<i>22</i> ,1,		RA	of Clinical Dermatology	Hill			
		2.	Burg S, Wallis D	Oxford Handbook of Medical	Oxford University	2011		
				Dermatology	Press			
		Additional liter	ature					
	22.2.	Number	Author	Title	Publisher	year		

	1.	Griffiths	Rook's Text Book of	New	2016
		С,	Dermatology	Jersey:	
		Barker J,		John	
		BleikerT,		Wiley and	
		Chalmers		Sons Ltd	
		R,			
		Creamer			
		D			
	2.	Ancevski	Dermatovenerology	Skopje:	2005
		A, Gocev		Kultura	
		G,			
		Pavlova			
		Lj,			
		Petrova			
		Ν			

Numb						
	chment 3	Integrated cycle of st	udies – Subject	program		
1.	Subject	SURGERY				
2.	Code	Med 421				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss.Cyril and Methodiu	s University in S	Skopje, Medical faculty	, Department of	
	institute, chair,	surgery				
	department)					
5.	Degree of education	Integrated 6 year studi	es			
	(first, second, third					
	cycle)					
6.	Academic	Year	Fourth (IV)	Semester	Eight (VIII) and	
	year/semester		and Fifth (V)		ninth (IX)	
7	ECTS credits		,	redits in (IX) semester		
8.	Professor (when more			MD - responsible profe		
	professors, responsible	*Lectures held by the	professors from t	the Department of Surg	gery	
	professor is assigned)					
9.	Language of the study	English				
	Preconditions for	Filled condition for V				
	attending the classes			ained based on the sum		
	and taking the		ctivities (lecture	s, tutorials, seminars, c	olloquia, final	
10.	subject's exam	exam)				
10.				min –		
		Theoretical course		2-8 p		
		Practical course		10 - 1	6 points	
 Subject program goals (competences) and study results: to learn and master skills within rational diagnost treatment of surgical diseases to become familiar with the basic principles of d preparation and treatment within the general sur 			n rational diagnostics a	nd contemporary		
				sing operational,		
				nates and indicates acut		
		witch it timely	y treatment is not	t diagnosed and treated	may end tatal	

12.	Subject co details by and units, results for chapter	chapters with study	nervo diges and r orgar Gene Disea Disea Disea Disea Disea Disea Disea Disea Disea Disea Disea Disea	ous system, neck and chest of tive diseases, urological dis econstructive corrections, lo ral and military surgery ase and surgical treatment of ase and surgical treatment of	organs, cardi eases, childr ocomotor sys f the central f lung disord f the disorde f the disorde f the disord f the disord f the disord f the disord f the disord	en's surgical disease, plastic stem injuries and internal nervous system er r of cardiac and vascular r of the digestive system r of the urogenital system of children's diseases r of the skin with plastic and
13.	Interconne between s		Related to all	subjects in the study progra	am	
14.		•	Interactive le	ctures, tutorials and seminar	' S	
14.	4. Description of the subject's study and working methods in details			ills and practical application		d theoretical knowledge
15.	Total avai frame	lable time	600 classes			
16.	Forms of teaching		16.1.	Lessons – theoretical lessons, hours		103 classes
	activities	0	16.2.	Practical lessons (laboratory,		Practical:180 classes
				auditory), seminars, team v	vork:	Seminars: 52 classes
			16.2	hours		
			16.3.	Practice: hours		
17	Other for	ms of	17.1.	Project tasks: hours		65 classes
17.	activities		17.2.	Individual tasks: hours		100 classes
10	D '	4	17.3.	Studying at home: hours	•	100 classes
18.	Requirem	ents for	Attending on tasks.	minimum 51% of all classe	s, seminars,	practice course and project
19.	signature Methods (of assessment	1a3K3.			
17.	19.1.	Tests: points			There are s	ix written tests
		rests. points			Covers all	areas of surgery in
						nbinations, depending
						p in which the student the current schedule:
						Surgery and
					Traumatolo	
						e vascular and cardiac
					surgery	
					3. Digestiv	e surgery
					4. Neurosu	
					5. Urology	

					6. Children and Pla	stic and	
					Reconstructive S		
					one test can get: 2-4		
				points, total for six tests: 12-24 points			
	19.2.	Seminar pape	r/project, writt	en and oral presentation:	Students can be assigned to make a seminar work, project od written		
		points					
					presentation, to get		
					(from 1 to 3), for calculating a bigger		
	10.0				final grade.		
	19.3.	Final exam: p	oints		Final exam: practi		
						ording to the catalog	
					od skills): examina diagnosis, therapy	tion of the patient,	
					8-12 points		
						ve) -4 questions that	
					are not questioned		
						dge is important for	
						entity of the case and	
					the medical practic	e	
					24-40 points		
						for 9 = 37-39 points;	
						; for 7=31-33 points;	
					for 6=28-30 points)The student is obligated to win a minimum of the envisaged points		
				for each part of the exam, to be able to registered points for the final			
					exam. Otherwise, the test is		
				considered not passed.			
20.	Grading	 criteria (points/	/grade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points	6 (six) (E)		
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
		a b b		From 93 to 100 points		10 (ten) (A)	
21.						he teachers and	
	Literatur	ching process		collaborators participating	in the teaching		
		Mandatory lit	0		51111		
22.	22.1.	Number	Author	Title	Publisher	Year	
		1.	Townsend	Sabiston textbook of	New York:	2008	
			CM,	surgery	Saunders		
			Beauchamp D,				
		Additional lite	,				
	22.2.	Number	Author	Title	Publisher	year	
		1 10111001	1 101101	1100		y Cui	

1.	Greg McLatchie, Borley N, Chikwe J	Oxford Handbook of Clinical Surgery	Oxford University Press	2013
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	lumber:41				
Atta	ichment 3	Integrated cycle of studies – Subject program			
1.	Subject	GYNECOLOGY AND OBSTETRICS			
2.	Code	MED 422			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Gynecology and Obstetrics			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies			
6.	Academic year/semester	Year Fourth/ Semester Eighth, ninth Fift (IV/V)			
7.	ECTS credits	12			
8.	Professor (when more professors, responsible professor is assigned)	Associate Prof. Ana Daneva Markova, PhD, MD - responsible professor *Lectures held by the professors from the Department of Gynecology and Obstetrics			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam Subject program goals (competences) and study results:	 Preconditions for attending the classes: filled for enrollment in VII semester. In order to take the final exam, the student should obtain the minimum points from the continual assessments The student learns and mastered the skills within the framewo of rationaldiagnostics and the modern treatment of gynecologic diseases. To familiarize the student with the basic principles of diagnosin operational preparation and treatment within Gynecology an Obstetrics. The student can rationally be able to evaluate and refer to the treatment of acutegynecological and obstetric diseases, which not diagnosed and treated in a timely manner can end up fatal. Student shall be able to evaluate and treat gynecological and obstetric diseases, monitore normal pregnancy 			
12.	Subject content in details by chapters and units, with study results for every chapter	Course content: Theoretical course: A. Gynecology Contents: • Introduction to gynecology and ethical principles			

Examination and objective finding in gynecology
Gynecological neuroendocrinology
Pelvic anatomy
Embryology with histology
Basics in surgical endocrinology
Growth, development and sexual maturation
 Disorders of puberty and adolescence
 Menstrual cycle and its disorders
Sexually transmitted diseases
 Inflammation of the genital organs
 Emergency and critical conditions in gynecology
Reproductive endocrinology and male infertility Table 1 for the infertility and here the set of the s
• Tubal factor infertility and endometriosis
Assisted reproduction
Pelvic prolapse
Urinary incontinence
Genital fistulae
Diagnostic methods in gynecology
Perimenopausal HRT
Contraception and paling of the family
Benign tumors of the vulva, vagina and cervix
• Benign tumors on the body of the uterus
Benign tumors of adnexa
Malignant tumors on the vulva, vagina and cervix
• Malignant tumors on the body of the uterus
Malignant tumors of adnexa
• Early diagnosis and prevention of cervical cancer and colposcopy
- Benign and malignant tumors of the breast
Understanding the basics concepts of Gynaecology care
D. Constant by Obstation
B. Content by Obstetrics:
• Conception. Morphological development of the placenta.
• Fetus and placental membranes.
• The construction and function of the placenta.
Placental hormones.
Placenta previa
Abrubtio placente
• The use of drugs in pregnancy - Urgent conditions in pregnancy
Graviditas E.U.
Bleeding in the first and second half of pregnancy
Breech delivery
Abnormalities on the placenta.
Embryopathy and fetopathy.
Prenatal diagnostics.
Genetic counseling.
Normal and abnormal pelvis

Multiple pregnancy
Infections in pregnancy
• PPO,ALSy
• IUGR
Rh incompatibility and Rh sensibilization
Diagnostic and therapeutic interventions in pregnancy
• Gestosis
• Fetus as an object
Normal labor. Normal deliveries.
Fetal distress
 Preterm delivery.
 Prolonged pregnancy - Diabetes in pregnancy
 Dystocia.
Induction of labor
 Mall rotations and mall presentations Completion of delivery with a vaginal intervention
Completion of delivery with a vaginal intervention
Completion of delivery with S.C.
Anesthesia and analgesia in obstetrics
Ultra sound in pregnancy
Diseases of the trophoblast
• Puerperium
Pre-term and postpartum bleeding
Internist and surgical diseases in pregnancy
• Ethical and legal aspects in perinatology
Competences and results : Understanding the basics concepts of Obstetric
care
Practical course:
A. Gynecology
Gynecological history
Gynecological examination
Cytological investigations
Taking swabs
Rtg diagnostics in gynecology
Laparoscopic diagnostics in gynecology
Biochemical investigations in gynecology
RCUI and CEF
Ultrasound diagnostics
• Acute conditions of gynecological origin: acute pain and acute
bleeding
Painful syndrome in gynecology
 Forensic research in gynecology
 Benign diseases in gynecology: vulva, uterine cervix, uterine
body, adnexa

			body, adnexa Opera gynecological B. Obstetrics Obste Obste Obste Clinic Labor Gravi Keepi Leadi Fetus Abort Child Epizo	stric history tric examination cal treatment of the pregnant w ratory and radiographic diagno dity ing a normal birth ng to birth in the pelvic presen ion techniques in obstetric pra bearing of maternity pathways ototomy and suture	atient aterial and instruments in roman stics in tation of the ctice rcui
			capitis	ric surgery: external bone, per , forceps - surgery to complete pelvic fetus	
13.	Interconne between s			subjects in the study program s obligated for Gynecology an	d Obstetrics Clinical Practice
14.	Description subject's s working n details	on of the study and		etures, exercises / seminars	
15.	Total avai frame	vailable time 360 classes			
16.	Forms of t activities	teaching	16.1.	Lessons – theoretical lessons hours	Obstetrics - 86
			16.2.	Practical lessons (laboratory, auditory), seminars, tean work: hours	
	Other for	ms of	16.3. 17.1.	Practice: hours Project tasks: hours	
17.	activities	1119 VI	17.1.	Individual tasks: hours	
			17.2.	Studying at home: hours	94 hours
18.	Requirem signature		In order to obtand practical	tain a signature, a student is rec classes and to score minimu asses -1, attendance of practica	uired to attend the theoretical m points: 12 (attendance of
19.		of assessment			0 : 16
	19.1.	Tests: points			8 min-16 max
	19.2.	Active partic	ipation:		12- min- 17 max
	19.3.	Final exam:			Exam of practical skills: 13 min- 22 max Oral: 27 min- 45 max
20.	Grading c	riteria (point	s/grade)	up to 59 points	5 (five) (F)

	-						
				from 60 to 68 points	6 (six) (E)		
				from 69 to 76 points	7 (seven) (D)		
			from 77 to 84 points	8 (eight) (C)			
				from 85 to 92 points	9 (nine) (B)		
				from 93 to 100 points	10 (ten) (A)		
21.	Methods	of monitoring	the quality of	Student anonymous evaluat	ion of the subj	ject and the	
	the teach	ing process		teachers and collaborators pa	articipating in th	ne teaching	
	Literatu	re					
		Mandatory l	iterature				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Bickerstaff H, Kenny C L.	Gynaecology by ten Teachers, 20 th Edition.	London, New York: CRC Press	2017	
		2.	Kenny CL, Myers JE	Obstetric by ten Teachers, 20 th Edition.	London, New York: CRC Press	2017	
		Additional literature					
		Number	Author	Title	Publisher	year	
22.	22.2.	1.	Hoffman B, Schorge J, Halvorson L, Karen Bradshaw K, Cunningham F	Williams Gynecology Second Edition	Chicago: McGraw Hill Profesional	2012	
		2.	Cunningham F, Leveno K, Bloom S, Hauth J, Rouse D, Spong C	Williams Obstetric 23 rd Edition	Chicago: McGraw Hill Professional	2009	

Att	achment 3	Integrated cycle of studies – Subject program		
1.	Subject	ONCOLOGY		
2.	Code	MED 423		
3.	Study program	General medicine		
4.	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine		
	institute, chair,	Department of Oncology and Radiotherapy		
	department)			
5.	Degree of education	Integrated 6-year study		
	(first, second, third			
	cycle)			

6.	Academic	Year	Fourth	Semester	Eight							
	year/semester		(IV)		(VIII)							
7	ECTS credits	2										
8.	Professor (when		Associate Prof. Violeta Klisarovska- responsible professor									
	more professors,	*Lectures held by the professors from the Department of Oncology and										
	responsible professor	Radiotherapy										
0	is assigned)	E 11										
9.	Language of the study	English										
	Preconditions for	Preconditions for attending th	e classes re	quirement met f	or the VII th							
	attending the classes	semester.	e classes. 1e	quitement met i								
	and taking the	In order to take the final exam,	the student sl	nould obtain the r	ninimum							
	subject's exam	points in the continual assessm										
10	3	If the student has not obtained		points in the con	tinual							
10.		assessment, he/she will be oblig										
				min –								
		Theoretical course		1- 3 p								
		Practical course		10 - 1	6 points							
11.	Subject program	Students to become acquainted	with									
11.	Subject program goals (competences)	Students to become acquainted	wittii.									
	and study results:	- terminology in oncology	on maxantia	a and apply datast								
		 – epidemiology of cancer, cancer,	•	i and early detect	lon							
		e 1		1 41								
		 principles of cancer surgery, hormonotherapy, target thera 			s of							
		multidisciplinary treatment,										
		treatments		specific oncolog	icui							
		- special problems in oncology	v and oncolog	rical emergencies								
		- clinical characteristics, diagr	-	-	common							
		solid malignant diseases (bre										
		malignancy, gynaecological	malignancy,	gastrointestinal ca	incers, head							
		and neck cancers, CNS canc		ers, malignant m	elanoma,							
		bone and soft tissues cancers	,									
12.	Subject content in	Module 1: 3T (theory) + 2P (practise) clas	ses								
	details by chapters											
	and units, with study	1. Introduction to oncology, on	cological terr	ninology and can	cer related							
	results for every chapter	terms										
	Chapter	- Epidemiology of car		I 1 ¹								
		- Cancer prevention, s	•									
		- Pathology and molec		of cancer								
		- Approach to cancer	-									
		 Tissue diagnosis in cancer Evaluation of patient, imaging modalities, staging 										
		- Evaluation of patient	t, imaging mo	odalities, staging								
		Module 2: 3T (theory) + 5P (practise) clas	ses								
		Module 2: 3T (theory) + 5P (practise) classes										
		1. Therapeutic modalities in on	cology									

		1
		— Radiotherapy
		- Chemotherapy
		– Hormonotherapy
		- Target therapy
		– Immunotherapy
		2. Multidisciplinary approach
		3. Acute and chronical side effects of cancer therapy
		Module 3: 3T (theory) + 5P (practise) classes
		1. Malignant tumours of thorax
		 Lung cancer
		- Breast cancer
		– Mediastinal tumours
		Module 4: 5T (theory) + 5P (practise) classes
		 Genitourinary malignancy
		 – Gynaecological malignancy
		- Gastrointestinal cancers
		 Head and neck cancers
		– CNS cancers
		 Skin cancers and malignant melanoma
		- Bone and soft tissues cancers
		Module 5: 3T (theory) + 3P (practise) classes
		1. Special problems in oncology and oncological
		emergencies
		 Raised intracranial pressure
		- Spinal cord compression
		- Bone marrow suppression
		– Malignant effusions
		- Superior vena cava obstruction
		- Hypercalcemia
		 Paraneoplastic neurological syndromes
		 Cancer vein thrombosis
		2. Cancer pain
		3. Terminally ill patient
13.	Interes and settion	Related to all subjects in the study program
1		
	Interconnection between subjects	related to an subjects in the study program
	between subjects	
14.	between subjects Description of the	Theoretical and interactive lectures organised in 5 thematic modules
	between subjects	
	between subjects Description of the subject's study and	Theoretical and interactive lectures organised in 5 thematic modules
	between subjects Description of the subject's study and working methods in details Total available time	Theoretical and interactive lectures organised in 5 thematic modules
14.	between subjects Description of the subject's study and working methods in details	Theoretical and interactive lectures organised in 5 thematic modules concurently with practical group work and exercises

Forms of teaching activities 16.2. Practical lessons (laboratory, auditory), seminars, team work: hours 25 hours 0 Other forms of activities 17.1. Project tasks: hours 1 17. activities 17.2. Individual tasks: hours 1 18 Requirements for signature In order to take the signature, the student should obtain minimum points in both theoretical and practical courses. 15 hours 19. Methods of assessment Continual assessment 1 (test) 10-16 points 10.1. Tests: points Continual assessment 2 (test) 10-16 points 10.1.0.16 points Included Module 1,2,3 10-16 points 10-16 points 11. Tests: points Seminar works Written exam 21-37 points 19.3. Final exam: points Complete final exam 9 (nine) (B) 10 (ten) (A) 10.1.0 from 60 to 68 points 6 (six) (E) 6 (six) (E) 10 (ten) (A) 10.1.0 from 71 to 84 points 9 (nine) (B) 10 (ten) (A) 10.1. deVita V Cancer: principles Available online at: Literature 2022 21. 1. deVita V Cancer: Principles		Б	64 1.	16.0	D (* 11	(1,1) $(1,1)$ $(1,1)$	251	
16.3. Practice: hours Image: forms of activities 17.1. Project tasks: hours Image: forms of activities 17. activities 17.1. Project tasks: hours Image: forms of activities Image: forms of activities 18. Requirements for signature In order to take the signature, the student should obtain minimum points in both theoretical and practical courses. If the student should obtain minimum points 19. Methods of assessment In order to take the signature, the student should obtain minimum points in both theoretical and practical courses. 19. Methods of assessment Continual assessment 1 (test) 10-16 points Included Module 1,2,3 Continual assessment 2 (test) 10-16 points Included Module 4,5 Seminar paper/project, written and oral presentation: points Seminar works Practical and Oral exam 8-12 points Practical and Oral exam 8-12 points 19.3. Final exam: points Complete final exam 6 (six) (E) from 69 to 76 points 7 (seven) (D) 19.4. Final exam: points To for points 7 (seven) (D) from 77 to 84 points 7 (seven) (D) 19.3. Final exam: points 10 (ten) (A) from 93 to 100 points 10 (ten) (A)				16.2.		• • • • • • • • • • • • • • • • • • • •	25 hours	
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22. Number Author Title Publisher Year 1. deVita V Cancer: Principles and Practice of Oncology, Available online at: LWWHealthLibrary.com/oncology 2022				ratura				
22. 1. deVita V Cancer: Principles and Practice of Oncology, Available online at: LWWHealthLibrary.com/oncology 2022					1			
22. 22.1. Principles and Practice of Oncology, LWWHealthLibrary.com/oncology			Number	Author	Title	Publisher	Year	
22. 22.1. Principles and Practice of Oncology, LWWHealthLibrary.com/oncology			1.	deVita V	Cancer:	Available online at:	2022	
22.1. and Practice of Oncology,	22.				Principles			
Oncology,		22.1.						
Oncology,					of			

	2.	Kerr DJ, Haller G, Cornelis J, van de Velde, Baumann M	Oxford Textbook of Oncology, 3rd Edition	Oxford University Press	2016
	Additional litera	ture			
	Number	Author	Title	Publisher	year
22.2.	1.	Halperin EC, Wazer DE, Perez CA, Brady LW	Perez & Brady's Principles and Practice of Radiation Oncology, 7th edition	Available online at: LWWHealthLibrary.com/oncology	2018

	ichment 3	Integrated eve	le of studies _ S	Subject program		
1.	Subject		IOCHEMISTR			
1. 2.	Code	MED 424		.1		
3.	Study program	General Medici				
4.	Institution (unit,			rsity in Skopje, Faculty	of Medicine,	
	institute, chair,	Department of	Biochemistry ar	nd Clinical Chemistry		
	department)					
5.	Degree of education	Integrated 6-ye	ar studies			
	(first, second, third					
	cycle)					
6.	Academic	Year	Fourth (IV)	Semester	Eighth (VIII)	
	year/semester					
7.	ECTS credits	1,5	·			
8.	Professor (when more	Associate Prof.	Irena Kostovsk	a, PhD, MD - responsib	ole professor	
	professors, a	*The lectures a	re given by all r	nembers of the	*	
	responsible professor			nd Clinical Chemistry		
	is assigned)	1	2	•		
9.	Language of the study	English				
	Preconditions for	Preconditions t	for attending th	e classes: requirement	met for the VII th	
10	attending the classes	semester.	C	1		
10.	and taking the	To enroll in the	final exam the	students are requested a	ctively to	
	subject's exam	participate in th	ne planned activ	ities.	2	
11.	Subject program	To underst	and and apply th	ne laboratory findings ir	n the diagnosis of	
	goals (competencies)	various dis	* * *		e	
	and study results:	 To prepare seminar papers (case reports) related to laboratory 				
	v	parameters important for clinical practice and differential diagnosis				
12.	Subject content in	Theoretical co	2	•		
	details by chapters	Clinica	l enzymology;			
	and units, with study		J 8J,			

	results for chapter	• every	 Plasma proteins and their roles in the diagnosis of various diseases; Hyperlipoproteinemia, atherosclerosis, CAD, hyperlipoproteinemia; Liver function tests; jaundice, cirrhosis; Clinical biochemistry of renal disease; biochemical parameters in the diagnosis of kidney disease, ABI, HBI; Tumor markers in diagnosis and prognosis of malignity diseas Diabetes mellitus; Neonatal screening; Fluid and electrolyte balance ; Biological factors that influence biochemical parameters. Practical course: Preparation and oral presentation of seminar paper; Visit to a clinical laboratory. 			Il parameters gnity disease; meters.	
13.	Interconn			Il subjects in the study pro	gram		
14.	between s Descriptio subject's working n details	on of the	Classroom- training, ser	oriented lectures, interacti ninar paper	ve lectures, group w	ork, practical	
15.	Total avai	ilable time	45 hours	45 hours			
16.	frame Forme of	to o obie a	16.1.	16.1. Lessons – theoretical lessons, hours		15	
10.	Forms of activities	leacning	16.2.	Practical lessons (laborat seminars, team work: ho	ory, auditory),	4	
17.	Other for activities	ms of	16.3. 17.1. 17.2.	Practice: hours Project tasks: hours Individual tasks: hours		11	
			17.3.	Studying at home: hours		10	
18.	Requirem signature	ents for		the professor's signature for the students are request			
19.	Methods	of assessment					
	19.1.	Tests: points			/		
	19.2.	Seminar pape presentation:	er/project, wri points	tten and oral	Theoretical cours minmax. 2-3 Practical course minmax. 4-7 Seminar paper minmax. 6-10	e	
	19.3.	Final exam:				am	
20.	Grading cr	riteria (points/g	grade)	Up to 59 points From 60 to 68 points From 69 to 76 points		5 (five) (F) 6 (six) (E) 7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	

				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.	of the tea	of monitoring aching process	the quality	Anonymous student evaluand collaborators involve		
	Literatu	-				
		Mandatory li	terature			
		Number	Author	Title	Publisher	Year
22.	22.1.	1.	Gaw A, Michael J. Murphy MJ, Srivastava R, Cowan RA, O'Reilly D	Clinical Biochemistry 5th Edition	London: Elsevier	2013
		Additional lit	erature			
		Number	Author	Title	Publisher	year
	22.2.	1.	Lieberman M	Mark's Basic Medical Biochemistry	Philadelphia: Lippincott Williams & Wilkins	2013

Atta	Attachment 3 Integrated cycle of studies – Subject program					
	1. Subject CLINICAL PHARMACOLOGY					
2.	Code	MED 425				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss Cyril and Methodiu	s University in Skop	e, Faculty of Medi	icine,	
	institute, chair,	Department of Preclin				
	department)	*				
5.	Degree of	Integrated 6-year stud	ies			
	education (first,					
	second, third					
_	cycle)					
6.	Academic	Year	Fourth (IV)	Semester	Eighth (VIII)	
	year/semester					
7	ECTS credits	1.5				
8.	Professor (when	Prof. Dimche Zafirov	PhD, MD - responsib	le professor		
	more professors,	*Lectures held by all j	professors from the D	epartment		
	responsible					
	professor is					
	assigned)					
9.	Language of the	English				
	study					

10.	Preconditions for attending the classes and taking the subject's exam	semestar and pas In order to take the in the continual		in the minimum points obtained the minimum	
11.	Subject program goals (competences) and study results:	 Introduction to the subject and tasks of the clinical pharmacology its practical meaning in the todays therapy; Understanding the basics of clinical pharmacology and training students to use its principles in practise, in particular to specipatients groups; Introduction to basic knowlege in managing clinical studies; Trainig the students to identify, follow and report adverse effects drugs; Optimisation, therapy individualisation and dosing regiments especific drugs; Knowlege of clinical importance of drug interactions 			
12.	Subject content in details by chapters and units, with study results for every chapter	 Design a and good Drug into Use of du lactation Adverse Practical course Preparation protocol, Individuation 	tion to clinical pharmacology; nd conduct of clinical drug studies; bit a clinical practice standards during stu- eractions and its clinical significance; rugs in elderly patients, children, duri- and in patients with renal and hepatic drug reactions and Pharmacovigilance : fon of key documents for conduct of c case report file, informed consent); al dosing models for drugs, determina is acording to drug blood concentration tic effect of specific drug groups; aspects of adverse effects reporting u	ndy performance; ng pregnancy and e impairment; e. Plinical trials (study ation of dosing ons and acording to	
13. 14.	Interconnection between subjects Description of the subject's study		jects in the study program ng during lectures, practical trainings	and seminars.	
1.5	and working methods in details	45 1			
15.	Total available time frame	45 classes			
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	20	

			16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10	
			16.3.	Practice: hours		
	Other for	ms of	17.1.	Project tasks: hours		
17.	activities		17.2.	Individual tasks: hours		
10			17.3.	Studying at home: hours	15	
18	Requirem signature	ients for	theoretical and p If the student	signature, the student should obtai ractical courses, and to present. has not obtained the minimum she will be obligated to pass them ion (points)	points in	the continual
			retive participat	ion (points)		min – max
			Theoretical course Practical course	se		1.8 - 3 4.2 - 7
19.	Methods	of assessm	ent			
	19.1.	Tests: po	pints	Continual assessment - points		nin – max 18 – 30
				Continual assessment of knowled – Written test 12 – – 1 study case of individual do	-	20 nt (tim work) 6 - 10
				The student is obligated to ac intended points for each part of continual assessment. Otherwise the final exam is con	the assessm	ent to pass the
	19.2.	written a	paper/project, nd oral tion: points			
	19.3.		am: points			min – max
			-	Oral examination* Practical examination**	points points	$\begin{array}{c} 24-40\\ 6-10 \end{array}$
				*Oral examination (integrative of which the integrative knowler Pharmacology is assessed, we understanding the subject.	dge in the fi	eld of Clinical
				**Practical examination (catal prepared for the practical course		Text materials
				The student has to fulfill the mi every part of the examination in scores for the final examination. is considered failed.	order to be	able to get the the final exam
20.	Grading of	criteria (p	oints/grade)	Up to 59 points		5 (five) (F)

	[$\left(\left(x \right) \right) \left(\mathbf{T} \right)$
				From 60 to 68 points		$\frac{6(\text{six})(\text{E})}{7(\text{six})(\text{E})}$
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points	-	8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.	Methods	of monitor	ing the quality	Student anonymous evaluation	on for the subje	ct, teachers
	of the tea	aching proc	ess	and associates participating	in the teaching	
	Literatu	re				
		Mandato	ry literature			
		Number	Author	Title	Publisher	Year
22.	22.1.	1. 2.	Ritter JM, Lewis LD, Mant TGK, Ferro A Department of pharmacology and toxicology	A Textbook of Clinical Pharmacology ant Therapeutics Authorized lectures	London: Hodder Arnold, an imprint of Hodden Education	2008
		3.	Rang HP, Ritter JM, Flower R al literature	Rang and Dale's Pharmacology, Ninth edition	New York: Elsevier	2020
				1		
		Number	Author	Title	Publisher	Year
	22.2.	1.	Atkinson AA.	Principles of Clinical Pharmacology, Second Edition	New York: Elsevier	2007

-	ber:45		~ ~ ~ ~				
Att	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	PEDIATRICS					
2.	Code	MED 511					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodi	ius University in Sko	opje, Faculty of N	Medicine,		
	institute, chair,	Department of Pediat	trics				
	department)						
5.	Degree of	Integrated 6-year stud	dies				
	education (first,						
	second, third cycle)						
6.	Academic	Year	Fifth (V)	Semester	Ninth, tenth		
	year/semester				(IX, X)		
7	ECTS credits	11					
8.	Professor (when	Associate Prof. Sonja Bojadzieva, PhD, MD - responsible professor					
	more professors,	*Lectures held by all	*Lectures held by all professors from the Department of Pediatrics				
	responsible						

	professor is				
9.	assigned) Language of the	English			
	study				
	Preconditions for	Preconditions for attending the classes: the criteria for enrollment in the			
10.	attending the	VII semester should be met.			
	classes and taking the subject's exam	In order to take the final exam, the student should obtain the minimum			
11.	-	points from the continual assessments. Objectives of the program (competencies):			
11.	Subject program goals				
	(competences) and	• The students should gain basic knowledge, which will be applied in a clinical setting in order to handle normal and abnormal growth			
	study results:	and development			
		 (physical, physiological, psycho-social) of the children from to adolescence. 			
		• The student should be able to provide basic pediatric care to children from different age groups (neonates, infants, toddlers,			
		children and adolescents).			
		 The students should gain the appropriate skills and knowledge 			
		necessary for the proper handling of the most common and			
		important diseases and urgencies in Pediatrics			
		• The students should gain knowledge for professional conduct and			
		communicational abilities necessary for problem-solving			
		(problem solving skills).			
		• The students should be equipped for life-long learning, necessary			
	~	for their further professional development			
12.	Subject content in	Contents of the program:			
	details by chapters and units, with	Theoretical course:			
	study results for	 Social and preventive pediatrics Social-economical factors that influence children's health. 			
	every chapter	 Vital statistics for the children's health in R. of N. Macedonia. 			
		 Organization of the health-care system, National preventive 			
		programs, mandatory immunizations			
		Growth and development			
		• Normal growth and growth charts, abnormalities of the growth and development.			
		• Evaluation of various developmental milestones and discovering of			
		developmental abnormalities.			
		Care for the sick child			
		• Primary and hospital care for the children.			
		• Ethics.			
		Basics of evidence based medicine.			
		Pediatric emergencies/ accidents/ poisonings			
		Principles of emergency pediatrics: respiratory, cardiovascular, neurologic and metabolic emergencies, poisonings and serious trauma			
		Genetics and dysmorphology			
		Chromosome disorders, monogenic disorders, multifactorial			
1		inheritance and dysmorphism			

Perinatology/ Neonatology
 A normal newborn, neonatal resuscitation, growth of the newborn, neonatal seizures, respiratory disturbances, jaundice, metabolic disorders, hematologic disorders, infections, birth trauma and urgent surgical conditions. Growth and puberty
Disorders of the pubertal development Nutrition
• Nutritional needs, breastfeeding, formula feeding, nutritional disorders
 Nephrology Nephrotic syndrome, glomerulonephritis, urinary tract infection, renal failure, enuresis, hypertension Cardiology
 Rheumatic fever, Congenital heart diseases, heart failure, infective endocarditis, arithmias Respiratory system
 Upper and lower respiratory tract diseases, bronchial asthma, chronic pulmonary diseases, cystic fibrosis Infections/ Allergies/Immunity
• Conditions accompanied by fever, Specific infections, anaphylactic reactions, urticaria (hives), allergies, immunizations, immunodeficiency disorders Endocrinology
 Diabetes mellitus, hypoglycemia, hypothyreoidism, hyperthyreoidism, disorders of the parathyreoid glands, adrenal cortical insufficiency, Cushing's syndrome Metabolism
 Inborn errors of the metabolism, neonatal screening, gastroenteritis, dehydration and re-hydration, acid-base balance (interpretation and disorders) Neurology
 Mental retardation, CNS infections, cerebral palsy, hydrocephalus, microcephaly, neuromuscular disorders Gastroenterology/ Hepatology
 Abdominal pain, abdominal mass, malabsorbtion, inflammatory bowel diseases, liver diseases, cirrhosis and portal hypertension, hepato-splenomegaly. Hematology/Oncology
 Anaemias, hemorrhagic syndrome, the most common malignancies in children Behavioral pediatrics
 Behavioral and social problems in childhood, ethic and professional behaviors relevant for the pediatricians Rheumatology
 Evaluation of the musculo-skeletal system, variations of the normal posture, diseases of the hip, knee and foot, diseases of the spine, back and neck, arthritis

			during	the neonatal/infant period, infections systemic diseases	and infestations, rash
				nunication with adolescents, common l	nealth
			proble		
			Practical cours		
				inical skills and the practical implement	ntation of the
10	.			tical knowledge	
13.	Interconn			ubjects in the study program. precondition for Pediatrics Clinical Pr	action and Dadiatrian
	between s	ubjects	Seminars	precondition for Fediatrics Chincal Fr	actice and reutatics
14.	Descriptio	on of the		ares, clinical exercises and exercises in	primary health-care.
	subject's			d clinical scenarios, practicing of skill	
	working r			e, problem oriented seminars (case bas	
	in details				
15.	Total avai		330 hours	· · · · · · · · · · · · · · · · · · ·	
	time fram	ie	150 hours of ho	ctures, exercises and seminars	
16.	Forms of t	teaching	16.1.	Lessons – theoretical lessons,	90 hours
101	activities	searching	10111	hours	<i>y</i> 0 nowib
			16.2.	Practical lessons (laboratory,	90 hours
				auditory), seminars, team work:	
				hours	
			16.3.	Practice: hours	
17	Other for	ms of	17.1.	Project tasks: hours	
17.	activities		17.2.	Individual tasks: hours	1.50.1
10	D ·		17.3.	Studying at home: hours	150 hours
18.	Requirem signature	ients for			
19.		of assessme	nt		
17.	19.1.	Tests: poin		minmax.	
	19111	1.00001 Pon		Continuous evaluation * 3: score	points 30-51
				*Continuous control of the gained kn	nowledge
				(colloquiums): 3 written tests (multip	ble choice) All the
				fields in Pediatrics are covered:	
				Continual assessment 1 : conatolgy, immunology, pulmology, 10-17 sco	
				Continual assessment 2 : endocrino	
				pediatrics, metabolic diseases/disord	
				gastroenterology, 10-17 score points	
				Continual assessment 3:hemato-or	ncology, neurology,
	10.0			cardiology, 10-17 score points	
	19.2.		aper/project,	min max.	
		written an presentation		Seminars*points30 - 40	
		presentatio	on. points	minmax Theoretical teaching score points	2 - 6
				r neorenear teaching score points	2-0

	19.3. Final exam: points		n: points	Practical teachingscore points8 - 10Conditional criteria:To complete the seminar the student is obliged to attend and take active participation in the seminars, also to achieve the necessary score minimumTo obtain the right to a final exam the student is obliged to pass the planed continuous evaluations or to score a 30% minimum of the total amount of points , wherein during the exam session first he must pass the continuous evaluations he hasn't passed and then go to a final examThe score for the subject is formed according a table of scores, which on the other hand is formed according to the sum of the score points from all the activities, continuous evaluations and the final examminmax.Score points20-33The final integrative exam consists of : Taking of the patient's medical history, differential diagnosis, physical exam, skill according to the catalog of skills + an integrated oral exam where the integrated knowledge necessary for the understanding of the plenum of the subject and the medical practice is evaluated . The exam			
				(practical and oral part) minmax.20-33 score points 10=30-33 score points, 9=27-29 score points, 8=24-26 score points, 7=21-23 score points, 6= 18-20			
				score points	•	,	
20.	Grading	criteria (poi	nts/grade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
- 11	M.41. 1		• • 4h • 1° 4	From 93 to 100 points	tandarita Cil	10 (ten) (A)	
21.	Methods of monitoring the quality of the teaching process			Anonymous evaluation by the s teachers and the collaborators v education			
	Literatur	·e					
	Mandatory literature		y literature				
		Number	Author	Title	Publisher	Year	
22.	22.1.	1.	<u>Kliegman R,</u> <u>Stanton</u> <u>B,Geme JS,</u> <u>Schor N,</u> <u>Behrman R</u>	Nelson Textbook of Pediatrics, 21th edition	New York: Elsevier	2019	

	2. Lissauer T,		Illustrated	New	2011		
Clayden G		Clayden G	Texbook of	York:			
			Pediatrics	Elsevier			
	Additional literature						
	Number	Author	Title	Publisher	Year		
22.2.	1.	Rudolph M,	Pediatrics and	Chicago:	2018		
		Lee T,	Children's health	McGraw			
		Leven M		Hill			

	lumber:46						
Atta	ichment 3	Integrated cycle of studies – Subject program					
1.	Subject	ORTHOPAEDICS					
2.	Code	MED 512					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Faculty of Medicine					
	institute, chair,	Department of Orthopaedics					
	department)						
5.	Degree of	Integrated 6 – year studies					
	education (first,						
	second, third cycle)						
6.	Academic	Year	Fifth (V)	Semester	Ninth (IX)		
	year/semester						
7	ECTS credits	3					
8.	Professor (when	Prof. Zoran Bozinovski, MD, Pł					
	more professors,	*Lectures held by all professors from the Department of Orthopaedics					
	responsible						
	professor is						
•	assigned)	E l'al					
9.	Language of the study	English					
	Preconditions for	Preconditions for attending the c	lasses nece	esary condition for	r enrolling in		
	attending the	VII semester.	145505. 11000	issary condition to	or enroning in		
	classes and taking	In order to take the final exam, t	he student s	hould pass the cor	tinuous tests		
	the subject's exam	or win minimum 60% of total p			lindous tests		
10.	the subject s than			min –	max		
		Theoretical course		1- 3 p			
		Practical course			6 points		
					1		
11.	Subject program	The student should learn	n and master	r the skills concerr	ning rational		
	goals	diagnosis and contempo		ent embodied into	the		
	(competences) and	ethiopathogenesis of the diseases.					
	study results:	• The student should be capable of clinical assessment and treatment					
		of muscle-skeletal system diseases					
		Contemporary clinical a					
		diagnosis, especially on					
		other examinations (labo	oratory, ultr	asound, radiograp	hic, computer		
		etc).					

			•	Contemporary treatment will be done according to the	e newest	
				achievements in medicine based on evidence.		
12.	Subject co	ontent in	•	Basics in orthopedic surgery		
	details by	chapters	•	Congenital disorders of the bone and joint system		
	and units,	with	•	Inflammatory diseases of the bone and joint system		
	study resu	lts for	•			
	every chaj	pter	•	Normal and disturbed healing of the bone		
			•	Tumors of the muscle-skeletal system		
			•	Congenital and acquired diseases of the locomotor sy		
				spine, pelvis, thorax, shoulder, elbow, wrist, hand, k		
			•	Canalicular syndromes of the upper and lower extrem	nities	
			•	Orthopedic devices		
13.	Interconne between st		Related	to all subjects in the study program		
14.	Descriptio	<u>v</u>	•	Practical applications and clinical skills in orthopedia	CS	
	subject's s		•	Measuring of the size and length of the upper and low		
	working n			extremities		
	in details		•	Clinical signs and tests for diagnosis knee injuries		
			•	Clinical signs and tests for diagnosis osteoarthritis of	f the joints	
			•	Practical course on phantoms		
			•	Measurements and tests for diagnosis of spine deform	nities	
			Podometric measurements, diagnosis and treatment of congenital			
			foot deformities in children			
			Clinical signs and tests for early diagnosis of congenital hip			
			dysplasia in children			
			•	Clinical approach for diagnosis of soft tissue and bon		
			•	Introduction into orthopedic surgical techniques		
15.	Total avai time fram		90 hou	S		
16.	Forms of t	eaching	16.1.	Lessons – theoretical lessons, hours	34	
	activities	C	16.2.	Practical lessons (laboratory, auditory),	21	
				seminars, team work: hours		
			16.3.	Practice: hours	0	
	Other form	ns of	17.1.	Project tasks: hours	0	
17.	activities		17.2.	Individual tasks: hours	0	
			17.3.	Studying at home: hours	35	
18	Requirem	ents for		to get a signature, the student should obtain minimum		
10	signature	01105 101	both the theoretical and the practical courses and seminars and to win			
	Signature			m of total points.		
			In order to take the final exam, the student should pass the continuous tests			
			or win minimum 60% of total points of the continuous tests; than the			
			student may approach to the final exam.			
			The grade in the comprehensive exam is given according to the grading			
			table, and on the basis of the sum of points obtained in all of the activities,			
				ous tests and final exam.	· · · · · · · · · · · · · · · · · · ·	
19.	Methods of	of assessme				
•	19.1.	Tests: poin			26-45	
	19.2.	Seminar p		ect, written and oral presentation:		
		points				

	19.3.	Final exar	n: points			21-36
20.	Grading	criteria (poi	ints/grade)	Up to 59 points		5 (five) (F)
	0	4	0 /	From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.	Methods of monitoring the quality			Anonymous student's evalu		
		iching proce	ess	and collaborators involved	in the educational	activities
	Literatur	·e				
		Mandatory literature				
	22.1.	Number	Author	Title	Publisher	Year
		1.	Greenspan A.	Orthopedic Imaging - A Practical Approach	Philadelphia: LWW	2012
22.		2.	Zitelli BJ, Davis HV.	Atlas of Pediatric Physical Diagnosis (Chapter – Orthopedics)	Philadelphia: LWW	2011
22.		3.	Rakel RE.	Textbook of Family Medicine: Orthopedics	Philadelphia: LWW	2011
		Additional	literature			
		Number	Author	Title	Publisher	year
	22.2.	1.	Pynsent PB, Fairbank JCT, Carr EJ.	Outcome Measures in Orthopedics and Orthopedic Trauma	London: Routledge	2004

Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	ANAESTHESI	DLOGY WI	TH REANIMATION		
2.	Code	MED 513				
3.	Study program	General Medicin	e			
4.	Institution	Department of Anaesthesiology with Reanimation				
	(unit, institute,					
	chair,					
	department)					
5.	Degree of	Integrated 6 - year studies				
	education (first,					
	second, third					
	cycle)					
6.	Academic	Year	Fifth (V)	Semester	Ninth (IX)	
	year/semester					
7	ECTS credits	2 credits				
8.	Professor (when	Professor Andrijan Kartalov, - PhD, MD - responsible professor				
	more	*Lectures held by the professors from the Department of Anaesthesiology with				
	professors,	Reanimation				
	responsible					

	professor is	
	assigned)	
9.	Language of the study	English
10.	Preconditions for attending the classes and taking the subject's exam Subject	Preconditions for attending the classes: fulfilled condition for the VII semester. In order to take the final exam, the student should obtain the minimum points from the three continual assessments. Teaching goals:
	program goals (competences) and study results:	 The student has to acquire: Basic knowledge of anaestesiology (types of anaesthesy and the impact the anaesthetics have on the human body, anaesthesiology check-up, anaesthesy preparation, peroral monitoring and peroral administration of patient with anaesthesy, general and local anaesthetics, opiates, muscle reluctant, post anaesthesiology healing, types of anaesthesiology complications and their salvation) Resuscitation as science and its practical appliance in the doctors practice, (elements of basic and advance life support and ways of manipulation at resuscitation, resuscitation at accidental conditions (electric shock, anaphilaxa, drowning, trauma etc.)) Basis of intensive care (urgent procedures at unconsciousness patients, acute respiratory weakness, electrolyte misbalance, and clinical manifestation of the different types of shocks and their therapy) Basic knowledge of healing acute chronic pain To be capable of: Resuscitation of the circulation volume Artificial alimentation Transport of critical patient Results: Knowledge and understanding: The student will acquire knowledge on types of anesthesia, medications in anesthesia, per-oral monitoring, postanesthesia period care, types of shock and therapy, reanimation Key skills: The student will be able to apply modern therapy in treatment of acute and chronic pain, basic pre-operation treatment and preparation of patient before anesthesia, infiltrative anesthesia, resuscitation protocols for OOZ and NOZ application, reanimation and urgent procedures for hosting
12	Subject content	critical patients, polytraumatic and other patients in urgent condition. Theoretical course:
12.	Subject content in details by chapters and units, with study results for every chapter	 Anesthesiology: Introduction to the subject Pre-Anesthesiology checkup of patient for Anesthesia/operation Types of anesthesia, medications in anesthesia Surveillance and monitoring of patient (basic and progressive) Patients care in post-operation period
		Reanimation:

			•	SBMO, cardiopulmonary rear life, DEF, medicaments treatm defibrilation) Reanimation of accidental cor strike. Cerebral death, Artifici Definition and types of shock- Pre-hospital treatment with in derivates transfusion, (bleedin and children) First reanimation, at conscious reanimation of acute respirato	nent of KA, (aditions: drow al ventilation clinics and the fusion, plasm g and water-s sness patient ry weakness,	EKG manifestations at KA, wning, deathly electric herapy ha, blood and blood salted disbalance at adults with unknown nature, acute neuromuscular
			 weakness, status epilepticus, status asthmaticus Practical course: Anaesthesiology check-up (classification according to ASA); Anaesthesiology apparatus practice-surgery Regional anesthesia-practice Phantom practice-artificial respiration, heart massage Medicaments application, practice (im, iv and infusion therapy) Practice in intensive care unit-critical patient, reanimation of patie with shock, patient intubing-practice on a model Practical use of defibrillator Blood transfusion 			
13.	Interconne	ction	Related	to all subjects in the study pro	gram	
	between	•			0	
	subjects					
14.	Description the subject study and working methods in details	's	Interact	ive teaching, seminars, practic	al trainings	
15.	Total availa time frame		60 hour	S		
16.	Forms of		16.1.	Lessons – theoretical les	sons, hours	20 hours
	teaching activities		16.2.	Practical lessons (labora auditory), seminars, tear hours	tory,	Practical course:18 hours Seminars: 2 hours
			16.3.	Practice: hours		
	Other form	is of	17.1.	Project tasks: hours		
17.	17. activities		17.2.	Individual tasks: hours		
			17.3.	Studying at home: hours		20 hours
18.	Requireme for signatu			dent is obliged to participate ac ng continuous assessment in or		
19.	Methods of	fassess	ment			
	19.1.		: points			al assessment - written test: ology, reanimation patient's therapy

		min – max points 21-35
19.2.	Seminar paper/project, written and oral presentation: points	Seminar paper/written presentation maximum 4 points
19.3.	Final exam: points	Final exam: practical + oral examination
		Practical examination: (according to skills catalogue) + integrative oral par
		- the integrative knowledge necessary
		to understand the core of the subject is examined
		min – max
		24-40 points
		• 10=38-40 points
		• 9=35-37 points
		• 8=31-34 points
		 7=28-30 points 6=24-27 points
		0 21 27 points
		The student has to gain minimum 49%
		of the anticipated points for each part
		of the exam in order to obtain the points for the final exam. On the
		contrary, the exam is considered not
		passed.
		Complete final exam : is a
		combination of the failed colloquies
		and final exam.
		To obtain the right to a final exam, the
		student is obliged to pass the failed
		continual assessment first, and then to pass the final exam.
		In case student does not pass the faile
		exam, he does not have right to take
		the final exam.
		Points for the activities of the student
		Type of activity points
		min – max
		Theoretical course1-5Seminars2-4
		Practical course 12-16
		Continual assessment 21-35
		Final exam – oral 24-40
		Total 60-100
		Theoretical course presence:
		51%-60% -1 point
		61%-70% - 2 points

					obtained by cou obtained from a	oints points ne whole exam is
					colloquies, final	
20.	Gradin (points/	g criteria grade)		Up to 59 points From 60 to 68 points		5 (five) (F) 6 (six) (E)
	u	8		From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.		ls of monit of the teac		Anonymous evaluation b teachers and the collabor		
	Literati	ıre				
		Mandato	ory literature			
22.		Number	Author	Title	Publisher	Year
	22.1.	1.	Morgan E, Mikail M, Marej M	Clinical Anesthesiology	Chicago: McGraw Hill	2013
	22.2		al literature			
		Number	Author	Title	Publisher	Year
		1.	Soljakova M, et al.	Anesthesiology and reanimation	Skopje: Biographica	2007

Att	Attachment 3 Integrated cycle of studies – Subject program							
1.	Subject	EMERGENCY ME	EMERGENCY MEDICINE					
2.	Code	MED 514						
3.	Study program	General Medicine						
4.	Institution (unit,	Ss Cyril and Methodi	us University in Sko	opje, Faculty of I	Medicine,			
	institute, chair,	Department of Surger	У					
	department)		·					
5.	Degree of	Integrated 6 - year stu	dies					
	education (first,							
	second, third							
	cycle)							
6.	Academic	Year	Fifth (V)	Semester	Ninth (IX)			
	year/semester							
7	ECTS credits	1.5 credits						
8.	Professor (when	Assosiate Prof. Oliver Stankov PhD, MD - responsible professor						
	more professors,							

	responsible professor is assigned)	*Lectures held by the professors from the Department of Surgery, Department of Internal Medicine, Department of Pediatrics, Department of Neurology, Department of Otorhinolaryngology, Department of Ophtalmology			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: filled condition for VII semester. The student is obliged to gain a minimum score of planned activities, including the continued examination in order to access the final exam. If the student did not win the required minimum score, they can access on the final exam in one of the three exam sessions			
11.	Subject program goals (competences) and study results:	The students to learn the basis of recognition of emergency conditions in medicine To learn the principles of careing in urgent situations and to overcome the kills in necessary therapis procedures, within their professional work. To know how to apply algorithms for reanimation issued by AHA American Heart Association) and ERC (European Resuscitation Council).			
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Urgent conditions in Cardiology Urgent conditions in Pulmonology Urgent conditions in GIT Urgent conditions in Toxicology Urgent conditions in Nephrology Urgent conditions in Pediatrics Urgent surgery conditions Urgent gynecology conditions Urgent conditions in Ophthalmology, Urgent conditions in Nephrology Urgent conditions in Ophthalmology, Urgent conditions in Neurology Urgent conditions in OPhthalmology, Urgent conditions in Neurology Urgent conditions in neurology Urgent conditions in dermatovenerology Seminar (4 classes) Cardiology (2 hours) Nephrology (1 hours) Surgery (1 hours) Practical course (12 hours): The practical course is mandatory and it is carried out in different departmants of intensive treatment uder leadership od mentor professor. 			
		• The student is obliged to participate in all activities of caring and treatment on intensive treatment.			
13.	Interconnection between subjects	Related to all subjects in the study program			
14.	Description of the subject's study and working	Interactive lectures, tutorials and seminars			

	methods	in						
4-	details		4.5.1					
15.	Total ava time fran		45 classes					
16.	Forms of		16.1.	Lessons – theoretical lessons, hours 12				
		activities	16.2.	Practical lessons (labor	,	. 12		
	0			seminars, team work: h		, 		
			16.3.	Practice: hours		6		
	Other for		17.1.	Project tasks: hours				
17.	activities		17.2.	Individual tasks: hours				
			17.3.	Studying at home: hour		15		
18.	Requirer signature			e student is required to at rs and to gain minimum s		ical, practical		
19.	Methods	of assessm	ient					
	19.1.	Tests: p	points					
						esment - written		
					test Theoretica	gency medicine		
					areas or emerg	geney medicine		
					min – max poi	nts		
					25 - 45			
	19.2.	Semina	r paper/project, writte	n and oral presentation:	entation: Seminar 25 points			
		points						
	19.3.	Final ex	kam: points		10-30 points			
						nt of the subject is		
						ling to the table of		
					points from al	ed on the sum of		
						spections and final		
					examination.	spectrons and mar		
20.	Grading	criteria (p	oints/grade)	From 60 to 68 points		6 (six) (E)		
	8	u	8 /	From 69 to 76 points		7 (seven) (D)		
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100		10 (ten) (A)		
				points				
21		e •4	• 41 1.4 6	From 60 to 68 points	1 0.1	6 (six) (E)		
21.		of monito	ring the quality of	Anonymous student's e and collaborators invol				
	Literatur		00					
			ory literature					
		Number	Author	Title	Publisher	Year		
22.	22 1			Rosen & Barkin's 5-				
	22.1.	1.	Schaider J, Hayden SR,	Minute Emergency	Philadelphia: LWW	2019		
			Wolfe R, Barkin	Medicine Consult				
			RM, Rosen P	integretite Consult				

		2.	Tintinalli JE, et. al.	Tintinalli's Emergency Medicine	Chicago: Mc Graw Hill	2023
Additional literature						
	22.2.	Number	Author	Title	Publisher	year
1. Teaching materials on English for students prepared by					repared by the fa	aculty

Atta	Attachment 3 Integrated cycle of studies – Subject program					
1.	Subject	PHYSICAL MEDICINE AND REHABILITATION				
2.	Code	MED 515				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss Cyril and Method	ius University in Sk	opje, Faculty of Medi	icine,	
	institute, chair,	Department of Physi				
	department)					
5.	Degree of	Integrated 6-year studies				
	education (first,					
	second, third					
	cycle)					
6.	Academic	Year	Fifth (V)	Semester	Ninth (IX)	
	year/semester					
7.	ECTS credits	1		<u>.</u>		
8.	Professor (when	Prof. Erieta Nikolikj	Dimitrova, PhD, M	D - responsible profe	ssor	
	more professors,	*Lectures held by the	e professors from the	e Department of Phys	sical Medicine	
	responsible	and Rehabilitation	-	-		
	professor is					
	assigned)					
9.	Language of the	English				
	study	-				
	Preconditions for	Requirement for the	VII semester fulfille	ed.		
	attending the	In order to take the fi	nal exam, the studer	nt should obtain the n	ninimum	
10.	classes and taking	points from the conti	nual assessments.			
	the subject's					
	exam					
11.	Subject program	Teaching goals:				
	goals			mentals of physical th		
	(competences)			ological and therapeu	tic effects of	
	and study results:		al modalities			
				f kinesitherapy (exerc	ise therapy)	
		and occupational therapy				
		• To acquire knowledge for orthopaedic devices and their use in				
		rehabilitation				
				ures for rehabilitation		
				orthopaedic disorder		
				ns, rehabilitation of ca	rdiovascular	
		and pulmona				
				ndications for physica	al therapy and	
		rehabilitation	1			

		To acquire know	wledge for multidisciplinary approach i	n		
		rehabilitation	whedge for mundusciphilary approach i	11		
			lified for education of patients about the	ir need for		
			physical therapy and rehabilitation treatment			
12.	Subject content in	Theoretical course:				
	details by		physical medicine and rehabilitation			
	chapters and	 Patient's exami 				
	units, with study	• Heat therapy				
	results for every	• Light therapy				
	chapter	Hydrotherapy				
	•	Balneotherapy				
			of electrotherapy			
			r- massage, and spinal traction			
			of exercise therapy			
		Occupational th				
		Orthopaedic de				
			of patients with rheumatologic diseases			
			of patients with neurologic diseases			
			of patients with orthopaedic diseases and	1		
		posttraumatic c				
			of diseases in childhood			
		 Rehabilitation of patients with cardiology and pulmonary diseases 				
		Practical course:				
			different therapeutic rehabilitation prog			
			plication of some methods of physical t			
			es and illnesses (infra -red rays, ultravi	olet rays, ice		
		therapy)				
13.	Interconnection	Related to all subjects in	n the study program.			
	between subjects					
14.	Description of the		hing during lectures and practical training	ngs,		
	subject's study	-	tical instruction,			
	and working	Case reports				
	methods in details		idy by using textbooks.			
15.	Total available	30 classes				
	time frame		course, practical course			
		15 classes - home indiv				
16.	Forms of teaching	16.1.	Theoretical course	7 classes		
	activities	16.2.	Practical course (laboratory,	8 classes		
			therapeutic ward, case reports in			
			hospital), team work: hours			
		16.3.Practice: hours/				
	Other forms of	17.1.Project tasks: hours/				
17.	activities	17.2. Individual tasks: hours /				
		17.3.	Individual (home) learning: hours	15		
18.	Requirements for	In order to get a signatu	re, the student should obtain minimum	points in both		
	signature	theoretical and practical		L		
			kam is given according to the grading t	able, and on		
	I	- <u>0</u>	Bernand to the Brading t	,		

			the basis of the sum of poi	ints obtained in all of	the activities.	
19.	Methods	of assessm	ent			
	19.1.	Tests: po			Continual asses (written) 54-90	
	19.2.	Seminar points	paper/project, written and o	ral presentation:		/
	19.3.	Final exa	am: points		Final exam: fin Final test is wri points	
					min – max	
		Active pa classes	articipation on the theoretics	Theoretical cou 1-3 points Practical courses 5- 7 points		
				The grade in the final exam is given according to the grading table, and on the basis of the sum of points obtained in all of the activities.		
20.	Grading	criteria (p	oints/grade)	Up to 59 poir	nts 5 (fiv	re) (F)
				From 60 to 68 poir		/ / /
		From 69 to 76 po			(D)	
				From 77 to 84 poir From 85 to 92 poir	, U	ht) (C) e) (B)
				From 93 to 1	,	$\frac{(b)}{n}(A)$
				poir		
21.	Methods teaching		ring the quality of the	Student's anonymous evaluation of the subject and teaching stuff who are involved in the education.		
	Literatur	·e				
		Mandato	ry literature			
		Number	Author	Title	Publisher	Year
		1.	Braddom R.	Physical Medicine and Rehabilitation.	New York: Elsivier	2011
22.	22.1.	2.	De Lisa J.	DeLisas` Physical Medicine and Rehabilitation. Principles and Practice	Philadelphia: LWW	2011
	22.2.	Addition	al literature			1
	<i>LL.L</i> .	AMUITION				

	Number	Author	Title	Publisher	year
	1.	Nikolikj-Dimitrova E.	Physical medicine and rehabilitation	Skopje: Laserjet,	2011
	2.	Teaching materials on Eng	glish for students prep	ared by the Depar	tment

Number:50 Attachment 3 Integrated cycle of studies – Subject program Subject **PSYCHIATRY** 1. MED 521 2. Code 3. **Study program** General Medicine 4. Institution (unit, institute, Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Psychiatry and Medical Psychology chair, department) 5. Degree of education (first, Integrated 6-year study second, third cycle) Year 6. Academic year/semester Tenth (X) Fifth Semester (V) **ECTS credits** 5,5 7. 8. Prof. Slavica Arsova Hadji-Angjelkovska, PhD, MD - responsible **Professor (when more** professors, responsible professor professor is assigned) *Lectures held by professors from the Department 9. Language of the study English **Preconditions for attending** Fulfilled preconditions for VII semester. For taking the final exam the student has to pass the test and to the classes and taking the 10. subject's exam acquire minimum of the intended points. Subject program goals Preparation of students to work with psychiatric patients 11. Diagnosis and treatment of psychiatric patients (competences) and study Adoption of theoretical and practical knowledge in results: psychiatry (contact and communication with psychiatric patients, interviewing patients, differential diagnosis, treatment planning). 12. Subject content in details by **Theoretical course:** chapters and units, with General psychopathology (disorders of psychological study results for every functions of consciousness, sensations and perceptions, emotions and affects, attention, thought process, chapter delusions/illusions/hallucination, memory function, will and drives, cognitive functioning); Developmental stages and developmental disorders (speech and language disorders, learning disorders, pervasive disorders, mixed developmental disorders, attention deficit hyperactivity disorder) Intellectual disability Personality disorders Anxiety disorders and stress disorders (Generalized anxiety disorder, Dissociative disorder, Somatoform

		dis Psy pre Aff bip dia Per Org bra Eat Sul pro diss Tre - ps tec Practical co Communica history, psyc psychologica approaches An Psy Dis Sul Dia - ps tec Practical co Communica history, psyc psychologica approaches Sul Dis - Tre - ps tec - ps - pro- - ps - ps - pro- - pro- - ps - pro- - ps - pro- - pro- - ps - pro- - pro- - ps - pro- - pro- - ps - pro- - pro- - pro- - ps - pro- - pro- - pro- - pro- - pro- - ps - pro- - pro	ation with psychiatric pa chiatric status, Identification c al evaluation, Differential	order) ectrum, clinical is and treatment) epressive disorder, ntation, differential brain disorders, chronic or dependences, orbidity and dual y tic approaches and rapy tients (taking medical of the leading symptoms, diagnosing, Treatment escence ence disorders y (Psychological niques, EEG)	
	Interconnection between subjects	Related to a	ll subjects in the study program	m	
14.	Description of the subject's study and working methods in details	seminars	eaching during lectures and pr	actical trainings,	
15.	Total available time frame	165 hours			
16.	Forms of teaching activities	16.1.	Lessons – theoretical	42	
		16.2.	lessons, hours Practical lessons	53	
		10.2.	(laboratory, auditory),	55	
		seminars, team work:			
		16.2	hours		
		16.3.	Practice: hours		
17.	Other forms of activities	17.1.	Project tasks: hours		
1/.		17.2.	Individual tasks: hours	70	
10	Doquinoments for similar	17.3.	Studying at home: hours	70	
18.	Requirements for signature	Conditional	criteria for assessment of k	nowledge:	

				For obtaining a signature the student is required to attend the theoretical and practical lectures.				
				minmax.Theoretical coursepoints 1-3Practical coursepoints 5-7				
19.	Metho	ds of asses	ssment		*			
	19.1.			Continual assesment	to	minmax. otal 18 - 30 points		
	19.2.	Seminar paper/pr written presenta	roject,					
	19.3.	Final ex	am: points	For taking the final exam the acquire minimum 51% (16 (30 points) from the tests. A the oral and practical exam acquired from the activities table of grades.	points) of the to After passing the . The grade is a	otal number of points e test the student takes sum of all points e exam according to the		
				Practical exam	12-20) points		
				Oral exam) points		
	<u> </u>					-		
20.		ng criteria		Up to 59 points		5 (five) (F)		
	(points	s/grade)		From 60 to 68 points	6 (six) (I 7 (seven) (D			
				From 69 to 76 points				
				From 77 to 84 points	8 (eight) (0			
				From 85 to 92 points From 93 to 100 points		9 (nine) (B) 10 (ten) (A)		
21.	Matha	de of mon	itaning tha	Student anonymous evaluat	tion for the subi			
21.		y of the tea	itoring the aching	associates participating in t		ect, teachers and		
	Literat	ture						
			ory literature					
		Number	Author	Title	Publisher	Year		
22.	22.1.	1.	Sadock B., Sadock V.	Kaplan and Sadock's Comprehensive Textbook of Psychiatry (2 Volume Set) 10th Edition	Philadelphia: Lippincott Williams and Wilkins	2017		
		Addition	al literature					
		Number	Author	Title	Publisher	Year		
	22.2.	1.	Chadlovski G. and al.	Psychiatry, part I and part II	Skopje: Prosvetno delo	2004		

	2.	Filipovska A.	Medical psychology	Skopje: Prosvetno delo	2004
		Belevska			
		D.			

Atta	chment 3	Integrated	cycle of studies –	Subject program				
1.	Subject		NOLARYNGOL					
2.	Code	MED 522						
3.	Study program	General M	Iedicine					
4.	Institution (unit,	Ss Cyril an	d Methodius Unive	rsity in Skopje, Faculty	of Medicine,			
	institute, chair,		t of Otorhinolaryn					
	department)	Ĩ	5	0 0,				
5.	Degree of	Integrated	6 – years studies					
	education (first,							
	second, third							
	cycle)							
6.	Academic	Year	Fifth (V)	Semester	Tenth (X)			
7	year/semester	(
7.	ECTS credits	6						
8.	Professor (when			D - responsible profes				
	more professors,			rs from the Departmer	it of			
	responsible professor is	Otorhinola	aryngology					
	assigned)							
9.	Language of the	English						
	study	28						
	Preconditions for	Preconditio	ons for attending the	classes: Completed co	ourse of VII semester			
	attending the			, the student should ob				
10.	classes and	points from	the continual asses	ssments.				
	taking the							
	subject's exam							
11.	Subject program				of certain pathological			
	goals	conditions in otorhinolaryngology						
	(competences)	- To perform the basic investigations in this area.						
	and study results:							
12.	Subject content	Theoretica	loourso					
14.	in details by	1 neoretica	u course:					
	chapters and	• Cli	nical anotomy and	nhusialagy of the sor	oonconital			
	units, with study			physiology of the ear, external, middle and in				
	results for every			,	· · · · · · · · · · · · · · · · · · ·			
	chapter	noi	miniammatory,1nfla	mmatory diseases of e	xternal ear, acute and			

		 chronic middle ear diseases, otogenic complication of otitis, injuries of the middle ear, bone diseases of the middle ear, general aspects of cochlear and retrocochlear hearing loss, treatment of pediatric hearing disorders,vestibular disorders,tumors of the ear, tumors of the cerebellopontine angle, sudden snsorineural hearing loss, temporal bone fractures, diagnosis and managment of facial paralysis, auditory rehabilitation Clinical anatomy immunology and physiopogy of the nose and paranasal sinuses. morphology of rhe nasal mucosa, nasal deformities, inflamaton of external nose, nasal cavity and facial soft tissues, sinus inflamation,nasal polyposis, rhinosinugenic complicatios, tumors of the nasal cavity and the nose nad paranasal sinuses. Anatomy,physiology and immunology of the pharynx, diseases of the nasopharynx, oropharynx, peripheral obstructive sleep apnea syndome, tumors, diseases of the hypopharynx and esophagus. Anatomy of the external neck, malformation,inflammation and tumors of the neck,clinical anatomy of the larynx and trachea, malformation of the larynx and trachea, infectious diseases of the larynx and trachea, specific laryngitis, foreign-body aspiration and injures of the larynx and trachea, tumors of the larynx, clinical aspects of the voice disorders, speech and language disorders.
		 Examination of the ear (inspection and otoscopy), clinical hearing tests, basic princips of audiometry, nystagmus clasification and tests, History and clinical examination of the nose, nasal endoscopy, special rhinologic tests, imiging of the nose and paranasal sinuses. Methods of examining the pharynx, Symptomatology and examination of larynx (inspection, palpation
		indirect and direct laryngoscopy) and trachea, imaging of the larynx and trachea,
13.	Interconnection between subjects	Related to all subjects in the study program.
14.	Description of the subject's study and working methods in details	Interactive lectures, group work, exercises, seminar paper
15.	Total available time frame	180 hours

16.	Forms of		16.1.		Lectures-t	heoretical		37 hours	
10.	teaching		10.1.		course	neorenear		57 110413	
	activities		16.2.		Practical les	ssons		45 hours	
			10.2.		(laboratory,			ie nouie	
					seminars, te				
					hours				
			16.3.		Seminars			15	
	Other form	ns of	17.1.		Project task	s: hours			
17.	activities								
			17.2.		Individual t	asks hours			
			17.2.			home: hours		83	
18.	Requirem	ents		der		ture, the student	should		ım
100	for signati					ical and practical			
19.	Methods o	of assessn	nent			1			
	19.1.	Tests:						min - max.	
			ogy and audiolo				poir		- 23
		2. Nose	e, paranasal sinu	ses	& pharyngo-	laryngology	poir	nts 12	- 23
	10.0	~ ·							
	19.2.		ar paper/project,	wr	itten and oral	presentation:	poin		- 3
	19.3.	Final e	xam:					min –	max
			D 1				n cinta 10, 16		
		-	Practical exam					points 10 - 16 points 25 - 35	
		-	Oral exam				points $23 - 53$		
20.	Grading c	l riteria (1	ooints/grade)		1	Up to 59 points	5 (five) (F)		
	of waning v		,			60 to 68 points			six (E)
						69 to 76 points			ren) (D)
			From 77 to 84 points		8 (eight) (C)		ght) (C)		
						85 to 92 points		9 (ni	ine) (B)
					From 9	3 to 100 points		10 (t	ten) (A)
21.			oring the quality	y	•	us student's eval			et,
	of the teac	hing pro	ocess		teachers and collaborators involved in the				
					educationa	activities			
	Literature								
			Mandatory li	tera	ature				
			Number		Author	Title		Publisher	Year
	22.1	•	1.	P1	robst R,	Basic		New York:	2006
			1.		revers G,	otorhinolaryngo	olog	Thieme	2000
22.					οΗ	y y	0		
<i>LL</i> .			Additional lit	era	ture				
			Number		Author	Title		Publisher	Year
								New York:	2012
			1		ee K I	Hesential			
	22.2		1.	L	ee KJ.	Essential otolaryngology			2012
	22.2		1.		ee KJ.	Essential otolaryngology head and neck		Thieme	2012

Numb	er:52					
	chment 3	Integrated cycle of st	9	program		
1.	Subject	OPHTHALMOLO	GY			
2.	Code	MED 523				
3.	Study program	General Medicine				
4.	Institution	Ss Cyril and Methodiu	s University in S	Skopje, Faculty of M	edicine, Department	
	(unit, institute,	of Ophthalmology				
	chair,					
_	department)					
5.	Degree of	Integrated 6-year studi	es			
	education (first,					
	second, third					
6.	cycle) Academic	Year		Semester	Touth (V)	
0.	year/semester	I Cal	Fifth (V)	Semester	Tenth (X)	
7.	ECTS credits	4	1	1	<u> </u>	
8.	Professor	Assoc. Prof. Emilija	Gioshevska Da	shtevska MD PhD		
0.	(when more	Assoc. 1 101. Ellillija	OJUSIICVSKa Da	isine v ska iviD,i iiD		
	professors,					
	responsible					
	professor is					
	assigned)					
9.	Language of	English				
	the study					
	Preconditions	Fulfilled criteria for as				
10	for attending	In order to take the fin		lent should obtain the	e minimum points	
10	the classes and	from the continual ass	essments.			
	taking the subject's exam					
11.	Subject s exam	 Student's abil 	ity for learning l	hasic nathological si	gns to recognize and	
11.	program goals			hthalmological disea		
	(competences)			Forming fundamental		
	and study				in ophthalmological	
	results:	diseases	81 1	8	1 0	
12.	Subject content	Pathology of	orbit and refrac	ctions		
	in details by	 Diseases of eyelids, conjunctiva and lacrimal system 				
	chapters and	 Diseases of anterior segment – cornea, iris and lens 				
	units, with	 Classification, clinical course, diagnosis and treatment of 				
	study results	primary and secondary glaucoma				
	for every				ptic nerve, choroid	
	chapter	and retina	0	J 9 -	_	
			ystagmys, amb	lyopic conditions		
13.	Interconnection	Related to all subjects				
	between			-		
	subjects					

14.	Descrip the sub study a workin method details	ject's nd g ls in	Interactive lectures, seminar presentations, exercises, workshop						
15.		vailable	1	20 hours					
16.	time fra Forms		1	6.1.	Lessons – theoretical	assons hours	33		
10.	teachin			6.2.	Practical lessons (labo	,	Practical – 34		
	activiti				seminars, team work:		1 Idettedi – 54		
			1	6.3.	Practice: hours				
		forms of	1	7.1.	Project tasks: hours				
17.	activiti	es		7.2.	Individual tasks: hours				
				7.3.	Studying at home: hou		60 hours		
18	Requir			-	t a signature for the cou		-		
	for sign	lature	ľ	practical and	theoretical lectures with	h active participat	tion		
19.	Metho	ds of ass	esem	ont					
1).	19.1.	15 01 A55		ts: points			min-max		
				1		Continual asses			
						1. General			
						ophthalmology	11.5-19 points		
						2. Special			
						ophthalmology	11.5-19 points		
						Total number	23 - 38 points		
	19.2.				oject, written and oral		min-max		
			-	sentation: poin		Seminar works	1		
	19.3.		Fina	al exam: point	ts		min-max		
						Practical exam	1		
						Oral exam	25-41 points		
20.	Gradin	g criteri	a (n	oints/grade)	Up to 59 points		5 (five) (F)		
		8	- ur		From 60 to 68 points		$\frac{6(110)(1)}{6(six)(E)}$		
					From 69 to 76 points		7 (seven) (D)		
					From 77 to 84 points		8 (eight) (C)		
					From 85 to 92 points		9 (nine) (B)		
					From 93 to 100 points		10 (ten) (A)		
21.	Method	sofmor	itori	ng the quality	*				
<i>2</i> 1.		eaching p		• • •					
	Literatu	<u> </u>			L.				
22.		Manda	tory	literature					
	22.1.	Numbe		Author	Title	Publisher	Year		
		1 tunitot	•	1 100101	11110	i defibiler	1 001		

	1.	Bredford AC	Basic Ophthalmology	San Francisco: American Academy of Ophthalmology	2004		
	2.	Carlson NB, Kurtz D	Clinical procedures in ophthalmologic examination	Chicago: McGraw-Hill Education	2015		
	Additional literature						
	Number	Author	Title	Publisher	year		
22.2.	1.	Waring GO, et al.	Basic and Clinical Science Course, Section 13: Refractive Surgery	San Francisco: American Academy of Ophthalmology	2022-2023		
	2.	Kanski JJ.	Clinical Ophthalmology	New York: Elsevier	2020		
	3.	Janev K. Zecevik S	General ophthalmology	Skopje: Menora	2012		

	ichment 3	Integrated avala of a	tudios Subio	ot program				
-		Integrated cycle of studies – Subject program						
1.	Subject		FAMILY MEDICINE					
2.	Code	MED 524						
3.	Study program	General Medicine						
4.	Institution (unit,	Ss Cyril and Methodi	us University ir	n Skopje, Faculty o	f Medicine,			
	institute, chair,	Department of Family	/ Medicine					
	department)							
5.	Degree of education	Integrated 6-years s	tudies					
	(first, second, third cycle)							
6.	Academic year/semester	Year	Fifth (V)	Semester	Tenth (X)			
7	ECTS credits	1.5			(11)			
8.	Professor (when more	Prof. Katarina Stavrik	i PhD, MD - re	esponsible professo	r			
	professors, responsible	*Lectures held by the	•	. .				
	professor is assigned)	Medicine, Departmen			2			
9.	Language of the study	English						
	Preconditions for	Preconditions for atte	nding the classe	es: completed exan	ns for			
	attending the classes and	enrollment in VII sen	nester.					
10.	taking the subject's exam	In order to take the fin	hal exam, the st	udent is required to	o attend the			
10.		theoretical, practical training and admit seminar, and to pass the						
		continual assessment.						
11.	Subject program goals	The goal is that the student learns the basics of the family						
(competences) and study medicine to recognize the importance of family					ine for the			
	results:	health of the population. The students will acquire competences primary care management, person oriented health care, specific						
		primary care manager	nem, person or	iented neatth care,	specific			

		problem solving skills and holistic approach.					
		• To achieve knowledge, skills and attitude for effective patient orientated care and treatment: prevention, recognize and treatment of most common acute and chronic diseases and mental health.					
		• To achieve communication and consultation skills in family doctor practice.					
		• To achieve skills for effective response to different complains and problems of patients, to support them to manage and to make prioritization of problems					
		• To understand the possibilities and limitations in the community for medical care					
		 To achieve knowledge and skills to use bio-psycho-social model for patient treatment and care 					
		 To be aware for ethical and moral responsibility of family doctor about creating health policy in the community 					
12.	Subject content in details	Theoretical course:					
	by chapters and units,	Interactive participation of students with analyses and discussion of					
	with study results for	cases and theoretical lecture of the responsible teacher.					
	every chapter						
		1. Introduction to FM/GP as a specific medical discipline.					
		Principles of Family Medicine: Continuity,					
		comprehensiveness, coordination of care. 2. Communication skills.					
		3. Use of evidence based medicine and guidelines for most					
		common presenting symptoms in family medicine.					
		 4. Management of diseases at early, undifferentiated stage. 					
		Dealing with uncertainty.					
		5. Holistic approach. Bio-psycho-social model.					
		6. Management of multiple health problems, identifying					
		priorities.					
		7. Prevention and health promotion, patient education.					
		 Decision making based on prevalence and incidence of target. 					
		9. Consulting skills — stages of a consultation.					
		10. Patient-centeredness – complex patient.					
		11. Chronic care, management of chronic diseases and health					
		problems					
		12. Interface of primary and secondary care: Referrals, gate					
		keeping, advocacy					
		13. The family as a source of disease and resource of care.14. Community orientation.					
		Practical course:					
		The practical work will be organized in the Center for family					
		medicine through workshops - patient with chest pain, rational					
		prescribing of antibiotics for acute respiratory tract infection, patient					

13.	Interconnection between subjects Description of the	and patient with During the work Collects Is able to Gives a G Orders ag Can chood The student can Blood pr Calculate Use of g Use of p Clinical Taking a Seminar work: Each student has prepare a semina maximum of 5 p in the Family M medicine. Assess findings and giv appropriate liter Related to all su Passed exam is of	on, patient with diabetes mellitus, patient metabolic syndrome. all important clinical information o integrate collected information correct working diagnosis ppropriate diagnostic tests ose an appropriate treatment method demonstrate following clinical skills: ressure measurement e and interpret BMI lucometar ick flow meter examination of breast nd interpreting rapid strep test s the task under the supervision of a teach ar essay on the topic of family medicine bages. Seminar work is submitted in elect edicine Center by the end of completion sed: understanding the problem, explains e possible solutions of the problem, and u ature. bjects in the study program. obligated for Family Medicine Clinical P entation, discussion of cases, practical wo	her to with a ronic form of family s the use of ractice	
14.	subject's study and working methods in		l skills practicing	rk in GP s	
15	details	15			
15.	Total available time frame	45			
16.	Forms of teaching	16.1.	Lessons – theoretical lessons, hours	14	
	activities	16.2. 16.3.	Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	16	
	Other forms of activities	17.1.	Project tasks: hours		
17.		17.2.	Individual tasks: hours		
		17.3.	Studying at home: hours	15	
18.	Requirements for signature	To obtain the signature, student is required to attend the theoretical, practical training and admit seminar and to gain a minimum score for all parts. After that the student has to pass the continual assessment and oral exam.			

				s formed according to the s from all activities, cont			
19.		of assessment			1	0.20	
	19.1.	Tests: points				8-30	
	19.2.	Seminar paper/p points	roject, written and	oral presentation:	5	-12	
	19.3.	Final exam:	points	s min-max	6	0-100	
		Written part	*	18-30			
		Oral part		20-30			
		Seminar essay		5-12			
		Attendance Theo		5-10			
		Attendance Prac	tical part	12-18			
20.	Grading	criteria (points/gr	ade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points	,	seven) (D)	
				From 77 to 84 points		(eight) (C)	
				From 85 to 92 points			
				From 93 to 100	10 (ten) (A		
				points			
21.	Methods teaching	of monitoring the process	quality of the	Students' anonymous evaluation of the subject and medical staff included in the teaching process.			
	Literatur	e					
		Mandatory literat	ure	-	-		
	22.1.	Number	Author	Title	Publisher	Year	
	22.1.	1.	Rachel R.	Textbook of family medicine	Philadelphia: Saunders	2015	
		Additional literate	ure				
22		Number	Author	Title	Publisher	Year	
22.	22.2.	1.	Stavrikj K, Petrovski G, Nikolovska S, Kiteva Trenceva G, Gerasimovska B, Stojanovski Z	Family medicine (on line available)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Family Medicine	2013	

Atta	ichment 3	Integrated cycle of studies – Subject program			
1.	Subject	FORENSIC MEDICINE			
2.	Code	MED 525			
3.	Study program	General Medicine			
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Medical Faculty,			
	chair, department)	Department of Forensic Medicine			
5.	Degree of education (first,	Integrated 6-year studies			
	second, third cycle)				
6.	Academic year/semester	Year Fifth (V) Semester Tenth (X)			
7	ECTS credits	4			
8.	Professor (when more	Prof. Zlatko Jakjovski, PhD, MD - responsible professor			
	professors, responsible	*Lectures held by the professors from the Department of Forensic			
	professor is assigned)	Medicine			
9.	Language of the study	English			
	Preconditions for	Filled out condition for enrollment in the VII semester			
10	attending the classes and	In order to access the final exam student should pass the predicted			
10.	taking the subject's exam	continuous check or to win at least 30% of the total number of points			
		on the preliminary exam. In the exam session, the student should firs			
11.	Subject program goals	 pass the preliminary exam and then approach the final exam. Adoption and mastering of skills for determination of death, 			
11.	Subject program goals (competences) and study	signs of death, cause of death and issuing a certificate of			
	results:	death.			
	i couito.	 Gaining knowledge of indications for forensic autopsy, and 			
		differentiating violent from natural death.			
		 Mastering skills of description of mechanical injuries, 			
		chemical injuries, injuries due to heat, injuries due to cold,			
		electrocution, lightening, asphyctic injuries and nutritive			
		injuries.			
		• Mastering skills of filling out and issuing a medical			
		certificate.			
		• Gaining knowledge of criminal law provisions concerning			
		the medical profession (negligent treatment, professional			
10		secrecy, euthanasia, failure to provide medical assistance).			
12.	Subject content in details	Theoretical course:			
	by chapters and units, with study results for	• Thanatology. Agony, dying, death, and types of death. Signs of death – uncertain signs, early post-mortem signs, and			
	every chapter	certain or later post-mortem signs. Estimation of time since			
	cvery enapter	death. Determination of death and cause of death.			
		 Mechanical injuries, general characteristics. Blunt-force 			
		• Mechanical injuries, general characteristics. Blunt-force trauma, sharp-force trauma (stab wounds, incised wounds),			
		and gunshot wounds.			
		• Asphyctic injuries, mechanism, and general characteristics.			
		Strangulation, suffocation, and compression.			
		• Injuries due to heat, injuries due to cold, injuries due to			
		electrocution, injuries due to lightening, injuries due to			
		microwave, laser, and atomic radiation			

13.	Interconnection between subjects Description of the	 Chemical injuries, poisons. Poisoning with corrosives, poisoning with metals, medicamentous poisoning, poisoning with pesticides, alcohol poisoning, and drugs Nutritive injuries Identification of living, and of deceased. DNA identification. Violent death - murder, suicide, and accident Forensic gynecology, and sexology Medico-legal expertise, and medico-legal expert. Medico-legal expertise of injuries. Medico-legal comment on the provisions of the criminal law for negligence, negligent treatment, failure to provide medical assistance, quackery, professional secrecy Practical course: Medico-legal autopsy. Performing technique of medico-legal autopsy. Goals and indications for medico-legal autopsy. Medical certificate Examination of victims of sexual abuse Identification of living and deceased Determination of death and issuing of certificate of death Medical criminalistics, expertise of blood stains, fiber and hair, sperm Forensic DNA technology Seminar papers: Students themselves choose matter in the field of forensic medicine Related to all subjects in the study program.		
	subject's study and working methods in details		actical course, and seminars	
15.	Total available time	120 classes	s, 75 hours lectures 45 hours home studying	
13.	frame	120 010500	, , o nours rectares to nours nome studying	
16.	Forms of teaching	16.1.	Lessons – theoretical lessons, hours	50 classes
	activities	16.2.	Practical lessons (laboratory, auditory),	25 classes
		16.2	seminars, team work: hours	
	Othou forma of a dividion	16.3.	Practice: hours	/
17.	Other forms of activities	17.1.	Project tasks: hours	/
1/.		17.2. 17.3.	Individual tasks: hours Studying at home: hours	/ 45 classes
18.	Requirements for		t is required to actively follow all of the planne	
10.	signature	activities.	a lo required to detivery renow an of the plant	- 4
		Conditional criteria for continual assessment: To get a signature, the student should attend theoretical classes, practical course and seminars and gain a minimum score. Theoretical course points $1-3$		
		Practical co		

			61% - 91%	2% = 1 point 2% = 2 points 2% = 3 points		
19.	Methods	of assessment				
	19.1.	Tests: points			Continual eva min. 12 – m * preliminary e written e	nax. 20 exam - one
	19.2.	Seminar paper/pr		en and oral	min – max	
	19.3.	presentation: poin			0 - 2 Oral exam*	
	17.3.	Final exam: point	15		min. 32 – max. 50 Practical exam* min. 12 – max. 20 * Oral exam (int	evaluate the dge important the entirety of the medical (according to tions from the and skills of nosis. is formed able of grades of points from nuous checks,
20	Cueding		- d a)	Up to 50 points		5 (five) (E)
20.	Grauing	criteria (points/gra	iuej	Up to 59 points From 60 to 68 points		5 (five) (F) 6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		$\frac{7 (\text{beven}) (\text{D})}{8 (\text{eight}) (\text{C})}$
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100		10 (ten) (A)
		o •, • ·-	1.	points		
21.	of the tea	of monitoring the or ching process	quality	Student's anonymous ev and associates involved		
	Literatur	e				
22.	22.1.	Mandatory litera	ture			
	<i>44</i> .1.	Number	Author	Title	Publisher	Year

	1.	DiMaio VJM, Molina K.	Forensic Pathology	Boca Raton: CRC Press	2021
	Additional literat	ture			
	Number	Author	Title	Publisher	year
	1.	Tasić M et al.	Forensic medicine	Novi Sad: Zmaj	2006
	2.	Zećević D, et al.	Forensic medicine	Zagreb: Medicinska naklada	2004
22.2.	3.	Janeska B, et al.	Practicum in forensic medicine	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Forensic Medicine Skopje	2019

Atta	ichment 3	Integrated cycle of studies – Subject program					
1.	Subject		OCCUPATIONAL MEDICINE				
2.	Code	MED 526					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodius University	ity in Skopje,	Faculty of Me	edicine,		
	institute, chair,	Department of Occupational Me	dicine	-			
	department)						
5.	Degree of education	Integrated 6-year studies					
	(first, second, third						
	cycle)						
6.	Academic	Year	Fifth (V)	Semester	Tenth (X)		
	year/semester						
7	ECTS credits	2					
8.	Professor (when	Prof. Jordan Minov, PhD, MD -					
	more professors,	*Lectures held by the professors	from the Dep	artment of Oc	cupational		
	responsible	Medicine					
	professor is						
	assigned)						
9.	Language of the	English					
	study						
	Preconditions for	Preconditions for attending the c	lasses: compl	eted criteria fo	or the seventh		
10.	attending the classes	(VII) semester.					
	and taking the	In order to take the final exam, the		ould obtain the	minimum		
	subject's exam	points from the continual assessment.					

11.	Subject program goals (competences) and study results: Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Physiology and psychology of work; Ergonomics, Ecology of work and working environment surveillance Physical hazards in working environment and health's Chemical hazards in working environment and health' Psychosocial factors at work and health's effects; Biological hazards in working environment and health Occupational diseases, work-related diseases and impaselected organs and systems Preventive measures, Preventive strategy Practical course: Microclimate in working environment; workplace ana Noise in working environment and hearing assessment Ionizing radiation, personal dosimeters, safety measure Lighting in working environment; Functional capacity assessment: cardio-respiratory sys anthropometry; Preventive medical examinations; Occupational diseases (case reports) Work-related-diseases (case reports) Pneumoconiosis and RTG classification-interpretation Methods and procedures in work ability assessment-pi Specific occupational risks in exposed workers in diffared industries Workers' Preparedness and Response to disasters Analysis of research data and scientific publications in occupational medicine 		nment's hment's th's effects; alth's effects; alth's effects mpairments of analysis; nent; sures; nent; system, tion; t-practical work; different sectors	
13.	Interconnection between subjects				
14.	Description of the subject's study and working methods in details	Lectures with interactive approach; Practical work, Seminars, Poster preparation and presentation			
15. 16.	Total available time frame	60 hours 16.1.			
					hours

	Forms activit	s of teaching ies	16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	Practical work: 14 hours Seminars: 2 hours
			16.3.	Practice: hours	
		forms of	17.1.	Project tasks: hours	
17.	activit	ies	17.2.	Individual tasks: hours	
			17.3.	Studying at home: hours	15 hours
18.	Requi signat	rements for ure	practical cou The student with minimu assessments subject is fo	criteria: bbtain a signature, the student is required to att urses and seminars and to score minimum poi can take the final exam if he/she has passed th um points. Additionally, he/she has to pass th , and then can take the complete final exam. rmed according to the rating table, based on t all the activities, the continuous testing and th	nts. ne continuous tests e continuous The grade for the he sum of the
19.	Metho	ods of assessmen	.		
	19.1.	Tests: points	assessment a diseases and	ssessments:	
			Final exam Written exa	1	
			Oral exam*	** 18-30	
			effects, occu compounds ** Oral exan psychosocia of selected of The student	m (integrative) including physical, chemical, il workplace hazards, occupational diseases, a organs and systems, preventive measures is obliged to have a minimum of predicted po	, organic biological, and nd impairments ints for each part
			for the final	in particular, in order to enable them to be in exam. Otherwise, the exam is considered uns	
	19.2.	Seminar paper/project, written and oral presentation: points	Project activ	vity (part of practical work) min max. points 2-5	
	19.3.	Final exam: points		min max. points 51-100	

20.	Gradi	ng criteria		Up to 59 points		5 (five) (F)		
	(points/grade)			From 60 to 68 points		6 (six) (E)		
		0 /	From 69 to 76 points		7 (seven) (D)			
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points		10 (ten) (A)		
21.	qualit teachi	oring the y of the ng process		student's evaluation of the educational activities.		collaborators		
	Litera							
		Mandatory li	terature					
		Number	Author	Title	Publisher	Year		
	22.1.	1.	Wallace RB(ed.)	Public Health and Preventive Medicine	Denver- New Orleans: OEM Press Publication	2008		
		2.	Robert J. Gatchel, Izabela Z. Schultz	Handbook of Occupational Health and Wellness	Boston: Imprint: Springer, Harvard University	2012		
22.		3.	Rom WN.	Environmental and occupational medicine	Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins	2007		
22.	-	Additional literature						
		Number	Author	Title	Publisher	year		
	22.2.	1.	Stikova E.	Occupational Medicine	University Ss. Cyril and Methodius in Skopje, Faculty of Medicine	2012		
		2.	Bislimovska Karadzinska J, Minov J, Risteska- Kuc S, Mijakoski D, Stoleski S	Occupational Medicine	University Ss. Cyril and Methodius in Skopje	2011		

Nun	nber:56	
Atta	ichment 3	Integrated cycle of studies – Subject program
1.	Subject	SOCIAL MEDICINE AND HEALTH ECONOMICS

2.	Code	MED 527				
3.	Study program	General Medicine				
4.	Institution (unit,	University Ss. Cyril and Methodius in Skopje, Faculty of Medicine,				
	institute, chair, department)	Department of Social Medicine				
5.	Degree of	Integrated 6-years stud	lies			
	education (first,					
	second, third					
	cycle)					
6.	Academic	Year	Fifth (V)	Semester	Tenth (X)	
_	year/semester					
7.	ECTS credits	2				
8.	Professor (when	Prof. Mome Spasovski	· ·	•		
	more professors,	*Lectures held by the	professors from the De	epartment of Socia	l Medicine	
	responsible					
	professor is					
•	assigned)					
9.	Language of the study	English				
	Preconditions for	Preconditions for atten				
	attending the	To access to the final e				
10.	classes and	assessment and to act			*	
	taking the	continuous assessment			s the unpassed	
	subject's exam	continuous checks, the				
11.	Subject program	Teaching goals of this subject are to improve the knowledge of the student				
	goals		and to become familiar with:			
	(competences)		es of social medicine			
	and study		evaluation of the healt	h systems		
	results:	Health management	nt			
		• Health economics				
		 Quality of health c Health promotion 				
			and disease prevention nerable groups of the p			
12.	Subject content	At the end of the theor			will have	
12.	Subject content in details by	improved the knowled				
	chapters and	improved the knowled	ge and competences a	bout the following	g topics.	
	units, with study	Chapter 1: Definition a	and concept of social 1	nedicine		
	results for every		a science, definition	lieurenie		
	chapter			areas of activity, s	tudy subject of	
		2. Social medical method, concepts, goals, areas of activity, study subject of social medicine				
		Chapter 2: Health care				
			f organization of the h	ealth care and heal	th service	
		4. Levels of health ca				
		5. Health system – or				
		6. Health organizatio	ns and organization of	f health care syster	n of the	
		Republic of North				
			nsurance and financing	g of health care in	the Republic of	
		North Macedonia				

	 Chapter 3: Family and special services 8. Family – importance for health, health needs and health care 9. Health and social protection of vulnerable groups (children, school children and youth, women, elderly, workers, people with disabilities)
	 Chapter 4: Disease prevention and management 10. Social diseases 11. Social medical aspects of chronic diseases (cardiovascular diseases, malignant neoplasms, injuries and violence, drug addictions, diabetes mellitus) 12. Social medical aspects of infectious diseases (tuberculosis, STDs, HIV/AIDS)
	Chapter 5: Health economics13. Definition and concept of health economics14. Health needs15. Financing of health care
	 Chapter 6: Health management 16. Definition and concept of health management 17. Planning of the health care 18. Accreditation of health facilities 19. Globalization and health 20. Evaluation of health and health status of the population 21. Informatics, statistics and health evidence
	 Chapter 7: Health promotion 22. Behavior and health education - definitions, goals, principles and stages in the development of the health education process. 23. Contents and areas of activity of health education 24. Health promotion methods and tools 25. Methodology of developing and implementing a health education program in the community
	 Practical lessons: Chapter 1: Medical documentation and evidence. 1. Legislation for evidence in health 2. Basic medical documentation, daily and current health reports. 3. Individual and aggregated reports. 4. ICD 10 – meaning, structure and practical application
	 Chapter 2: Social medical diagnostics – health evaluation. 5. Health evaluation 6. Health indicators for monitoring and studying the population health
	 Chapter 3: Health care in the community 7. Methodology and preparation of health profile in the community and for certain specific groups of the population. 8. Health statistical research. 9. Monitoring and assessment of health risks

13.	Interconn between s			Related to all subjects in the study program. Passed exam is obligated for Public Health - Clinical Practice.					
	been een s	usjeets	1						
14.	Description the subject		Lecture	es, exe	rcises, seminars, field practic	cal course			
	study and								
	working n in details	nethods							
15.	Total avai	ilahle	60 hour	s					
13.	time fram		00 11001	5					
16.	Forms of		16.1.	Lesson	ns – theoretical lessons, hours	5	20 hours		
	teaching		16.2.	Practio	cal lessons, seminars, team w	ork: hours	10 hours		
	activities		16.3.	Practio	ce: hours				
	Other for	ms of	17.1.	Projec	t tasks: hours				
17.	activities		17.2.	Indivi	dual tasks: hours				
					ng at home: hours		30 hours		
18	Requirem				ature the student is required				
	for signat	ure	-	and	seminars and to achieve min	nimum points to acces	ss the final		
19.	Methods of	of assessment	exam.						
19.	19.1.	Tests: p				minmax. 18 –	30 points		
	17.1.	-		icatio	n of knowledge	10 –	50 points		
					n test It covers the first half				
				e content of the course of					
					al training of the subject				
					alth economics, which is				
	10.0		into two	-	*	·	<u> </u>		
	19.2.		r paper/pi ation: poi		written and oral	minmax	6-10 points		
		presente	ation. poi	ms					
	19.3.	Final ex	am: poin	ts		minmax. 30-	-50 points		
) - 3 questions of		1		
					which is important for	Theoretical course	3-5 points		
			-	e who	le subject and social-	Practical course	3-5 points		
			activity	7.50	-12 16 mainter 9	The analy of the sub-			
					points; 9 = 43-46 points; 8 38 points, 6 = 30-34	The grade of the subjoint accordance with the			
		points)	points, 7	- 55-	56 points, 0 = 50-54	grades, based on the s			
		pointe)				from all activities, co			
						assessment and final			
20.	Grading c	eriteria (p	ooints/gra	ade)	Up to 59 points		5 (five) (F)		
					From 60 to 68 points		6 (six) (E)		
					From 69 to 76 points		$\frac{7 \text{ (seven) (D)}}{2 \text{ (seven) (C)}}$		
				From 77 to 84 points		$\frac{8 \text{ (eight) (C)}}{0 \text{ (ninc) (P)}}$			
					From 85 to 92 points From 93 to 100 points		9 (nine) (B) 10 (ten) (A)		
21.	Methods o	fmonitor	ring the		Anonymous student's eval	uation of the subject t	10 (ten) (A)		
21.	quality of t		•	s	collaborators involved in th				
22.	Literature						<u>.</u>		
<i>LL</i> .		-							

	Mandator	y literature				
	Number	Author	Title	Publisher	Year	
22.1	1.	Boulton ML, Wallace R.	Maxcy-Rosenau- Last Public Health & Preventive Medicine	Chicago: McGraw Hill Medical	2022	
	2.	Tulchinsky T, Varalinkova E, Cohen MJ	The New Public Health. 4 th Edition	Elsevier	2023	
	Additional	literature				
	Number	Author	Title	Publisher	year	
22.2	1.	Detels R, Karim QA, Baum F, Li L, Leyland AH	Oxford Textbook of Global Public Health [7th ed.]	Oxford University Press	2021	
	2.	Donev D, Spasovski M, Tozija F, Kjosevska E	Social medicine	University Ss Cyril and Methodius in Skopje, Faculty of Medicine	2013	

	chment 3	Integrated cycle of studies – Subject program					
1.	Subject	INTERNAL N	INTERNAL MEDICINE – CLINICAL PRACTICE				
2.	Code	MED 611					
3.	Study program	General Medic	eine				
4.	Institution (unit, institute,	University Ss.	Cyril and Meth	odius in Skopje, I	Faculty of Medicine,		
	chair, department)	Department of	Internal Medic	ine			
5.	Degree of education (first,	Integrated 6-ye	ear studies				
	second, third cycle)						
6.	Academic year/semester	Year	Sixth (VI)	Semesters	Eleventh, Twelfth		
					(XI/XII)		
7	ECTS credits	15					
8.	Professor (when more	Assistant profe	essor Beti Todoi	ovska, MD, PhD	- responsible		
	professors, responsible	professor					
	professor is assigned)	0	•	teaching staff at t	he Department of		
		Internal Medic	ine				
9.	Language of the study	English					
	Preconditions for attending	Preconditions	for attending t	he classes: acqui	ired credits (passed		
	the classes and taking the	exam) from In	ternal Medicine	-			
10.	subject's exam	In order to tal	ke the exam th	e student is obli	gated to attend and		
					ne week period (40		
		working days f	for 8 hours daily	/)			

		The student shall gain skills in modern clinical assessment and treatment. The student shall be able to individually perform patient admission, urine analysis, blood work, pre-transfusion tests with legal documentation, insertion of a urinary catheter, rectal exam- rectoscopy, ECG (technique and analysis), cardiopulmonar- resusitacion, chest X-RAY interpretation, injections (subcutaneous intramuscular and intravenous).					
		sternal gastric cathete	udent shall observe and assist at the puncutre and smear, pleural puncutu tube insertion and gastric lavage, inse er, measuring of central venous acheal intubation, mechanic ventilation	re, abdominal puncture, ertion of a central venous pressure, gastroscopy,			
		The lecutres shall be organized for the period of 8 workin weeks with a full-time schedule of 8 hours. Four rotations shall be organized during the XI th and XII th semester. The rotations shall encompass a group of 2-5 students by a mentoring principle, with professors and assistants-collaborators. During the rotation, the departments and mentors shall change. Everyday student activities shall be recorded in a special "journal of activities", which shall be verified by the mentor.					
		• P • P • P fa C H R • P	ng methods: articipation at the professional meetir articipation at morning rounds articipation in the daily work at the d ollowing: Clinic for Nephrology, Clir linic for Pulmonology, Clinic for Tox lematology, Clinic for Gastroenterohe heumatology and Clinic for Endocrir articipation in interventions from the medicine.	epartments at the hic for Cardiology, kicology, Clinic for epatolgy, Clinic for hology.			
13.	Interconnection between subjects	Relate	d to all subjects in the study program				
14.	Total available time frame	450 ho	urs				
15.	Distribution of available		urs for practice				
	hours		urs for home studying				
16.	Forms of teaching activities	16.1	Practice (laboratory, clinical), seminars, team work	320 hours of practice			
17.	Other forms of activities	17.1	Studying at home	130 hours			
18.	Requirements for signature	Conditional criteria: In order to obtain a signature and to obtain the minimum number of points to pass, the student must attend the practice and master every activity and skill determined in the study program.					
19.			, and skin determined in the study pro	- 5 ¹ 4111.			
1).							

	19.1.	Grading		The student must obtain a		ts.				
	10.0			Brades shall be descriptive	ve (pass/fail).					
	19.2.	period (4 min – m	The student is obligated to attend and actively participate in the practice during the week period (40 working days for 8 hours daily) min – max 60-100							
		Practice * attenue		ta activity (alvilla), 2.1 m	ainta					
20.	Methods		ing the quality	ts, activity (skills): 2,1 p	valuation for the subj	ect teachers and				
20.		ching proce		associates participatin		cet, teachers and				
	Literatur	<u> </u>								
		Mandato	ory literature							
		Number	Author	Title	Publisher	Year				
	22.1.	1.	Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL	Harrison`s Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022				
		2.	Goldman L, Ausiello D.	Goldman-Cecil Medicine, 27 th edition	New York: Elsevier	2023				
		Additional literature								
22.		Number	Author	Title	Publisher	Year				
		1.	Genadieva Stavrikj S. Ed.	Internal Medicine	Skopje: Vinsent Grafika	2020				
	22.2.	2.	Georgievska Ismail Lj, Poposka L, Trajkov I, Gjorgov N.	Electrocardiography Skopje	(COIBSS.MK – ID71834122):	2008				
		3.	Grozdanovski R, Ivanovski N.	Chronic Renal Disease – Prevention, Clinical Manifestation and Treatment Skopje	(COIBSS.MK – ID73515018)	2008				
		4.	Bickley LS, Szilagyi PG.	Bate' Guide to Physical Examination and History Taking	Skopje: Akadmenski pechat	2012				
		5.	Goldman L, Ausiello D.	Cecil Medicine	Skopje:Tabernakul	2012				
		6.	Wallach J.	Interpretation of Diagnostic Tests	Skopje: Akademski pechat, 8 th edition,	2013				

	7.	Swartz MH.	Textbook of	Skopje:	2010
			Physical Diagnosis:	Tabernakul	
			History and		
			Examination		

	per:58 achment 3	Integrated cy	cle of st	udies – Subj	ect program		
1.	Subject	INTERNAL MEDICINE - SEMINAR					
2.	Code	MED 612					
3.	Study program	General med	cine				
4.	Institution (unit, institute,	Ss Cyril and N		s University	in Skopie. Fa	culty of	
	chair, department)	Medicine, De		•	15 /		
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year Sixth (VI) semester Eleventh, twelfth (XI/ XII)					
7	ECTS credits	1					
8.	Professor (when more professors, responsible	Assistant prof	essor Be	ti Todorovska	a, MD, PhD-	responsible	
	professor is assigned)	* teaching is c Internal Medi		d by teaching	staff at the I	Department of	
9.	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: acquired credits (passed exam) from Internal Medicine. In order to attend the final exam, the student must compose a seminar assignment and present it orally.					
11.	Subject program goals:	through proce The student i internist cause The student s	ssing of s to be hall be	clinical pract able to famil able to proce	ice cases. iarize himse ess current c	-based learning lf/herself with the linical pathologies h clinical practice	
12. Subject program content Theoretical c Case problem Problem-con approach of clinical cases The lectures shall be 			retical case processing by suitable themes problem solving by suitable themes em-conceptualized seminars with an integrated ach of theoretical knowledge, with case reports on al cases. hall be organized in the duration of 5 days for 4 hours. shall be organized during the XI th and XII th semester.				
		princi • The st public • The s semin	ing shal ple udent sh case pro udent sh ar group	all actively p esentations all rotate dai	articipate in o ly, by a rotat of 20 student	s of a mentoring discussions and ion system in s, meetings with ' discussions	

					•	A tutoring model of case solving	of teaching shall be ma	ade avail	able, with
13.	Intercon subjects	nection bet	tween	Re	Related to all subjects in the study program				
14.		uilable time	e frame	30	hou	rs			
15.	Distribut hours	ion of avai	lable	20 hours for seminars 10 hours for home studying					
16.		teaching a	octivities	16.		Lectures – theoret			
10.	r or my or		<i>cuvilles</i>	16.			ry, clinical), seminars,	team	20 hours
	Other for	rms of acti	vities	17.	1	Project assignmen	nts		
17.				17.		Individual assignm			
				17.		Studying at home			10 hours
18.		nents for s	ignature	obl as 1	ligat to oł	ed to attend and act ptain the minimum	-	seminar	
19.	9. Grading criteria			G	rade	s shall be descriptiv	<u> </u>	S.	
	19.1.	Final exa	am	Case solving (seminar project) Written part points Oral presentation points			1	nin. – max. 4-30 14-30	
	19.2.	Seminar	paper/projec		ar pr	esentation	points	1	
	17.2.	written a presentat	nd oral	Seminar assignment + oral presentation					
	19.3.	Active p	articipation	min. – max. Seminars* points 32-40 *The seminars shall be organized during the period of 5 day for 4 hours daily. Attendance 4 points; activities 4 points (4-hour block)				·	
20.	Methods	of monito	ring the			.	valuation for the subje		/
			ing process	5					
	Literatur	·e							
	-	Mandato	ry literatur	e					
		Number	Author			Title	Publisher		Year
	21.1.	1.	Loscalzo J Fauci A, Kasper D,	,	Pri Int	urrison`s inciples of ernal Medicine	Chicago: McGraw Hill	2022	
21.			Hauser S, Longo D, Jameson JJ			th edition			
		2.	Goldman L, Ausiello D.		Me	oldman-Cecil edicine, 27 th ition	New York: Elsevier	2023	
		Addition	al Literatur	e					
	21.2. Number Author				Title	Publisher	1	Year	

	1.	Georgievska	Electrocardiography	(COIBSS.MK –	2008
		Ismail Lj,	Skopje	ID71834122):	
		Poposka L,		,	
		Trajkov I,			
		Gjorgov N.			
	2.	Grozdanovski	Chronic Renal	(COIBSS.MK –	2008
		R, Ivanovski	Disease –	ID73515018)	
		N.	Prevention, Clinical		
			Manifestation and		
			Treatment		
			Skopje		
	3.	Grozdanovski	Chronic Renal	(COIBSS.MK –	2008
		R, Ivanovski	Disease –	ID73515018)	
		N.	Prevention, Clinical		
			Manifestation and		
			Treatment		
			Skopje		
	4.	Bickley LS,	Bate' Guide to	Skopje:	2012
		Szilagyi PG.	Physical	Akadmenski pechat	
			Examination and		
			History Taking		
	5.	Goldman L,	Cecil Medicine	Skopje:Tabernakul	2012
		Ausiello D.			
	6.	Wallach J.	Interpretation of	Skopje: Akademski	2013
			Diagnostic Tests	pechat, 8 th edition,	
	7.	Swartz MH.	Textbook of	Skopje: Tabernakul	2010
			Physical Diagnosis:		
			History and		
			Examination		

Atta	achment 3	Integrated cycle of	studies – S	Subject program			
1.	Subject	PEDIATRICS-CL	PEDIATRICS-CLINICAL PRACTICE				
2.	Code	MED 613					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Method	lius Univer	sity in Skopje, Fac	culty of Medicine,		
	institute, chair,	Department of Pedia	atrics				
	department)						
5.	Degree of education	Integrated 6-year stu	ıdies				
	(first, second, third						
	cycle)			-			
6.	Academic	Year	Sixth	Semester	Eleventh/twelfth		
	year/semester		(VI)		(XI/XII)		
7	ECTS credits	6					
8.	Professor (when more	Assos. Prof. Sonja Bojadzieva - responsible professor					
	professors, responsible	*Lectures held by the professors from the Department of					
	professor is assigned)	of Pediatrics					
9.	Language of the study	English					

	Preconditions for	Preconditions for attending the classes: credit points gained (passed
	attending the classes	exam) in Pediatrics.
10.	and taking the subject's	To obtain the right to a final exam and score the minimum amount of
10.	exam	points necessary for passing of the pediatrics exam, the student is
		obliged to attend the clinical practice and must master all the skills and
		activities which are planned in the subject program.
11.	Subject program goals	Objectives of the program :
	(competences) and	Familiarization with the diagnostic and therapeutic procedures in the field
	study results:	of clinical pediatrics
	sea y 105 a 105 a	
12.	Subject content in	Contents of the program :
12.	details by chapters and	
	units, with study results	
	•	1. Admission of a sick child in the hospital
	for every chapter	2. Particularities in the taking of the patient's medical history
		according to the department
		3. Particularities of the physical exam according to the department :
		• Hematology
		Oncology
		Cardiology
		Endocrinology
		Pulmology
		Immunology
		Gastroenterology
		• Neurology
		• Metabolism
		Neonatology
		• Nephrology
		Intensive care
		4. Creating of algorithms for diagnostic procedures, work diagnosis
		and therapy plan in various clinical cases
		5. Participation in the clinical work at the department
		• urine analyses
		 complete blood count and blood smear
		• pre-transfuzion testing with a legal documentation
		• insertion of a urine catheter
		 ECG (technique and analyses)
		 cardio-pulmonay resuscitation
		• interpretation of a chest x-ray
		• injections (subcutaneus, intramuscular, intravenous)
		6. To attend and to participate in the following procedures :
		 Blood and bone marrow smear
		• pleural puncture
		abdominal puncture
		 insertion of a gastric tube and gastric lavage
		 insertion of a gastre tabe and gastre lavage insertion of central venous catheter
		 measurement of central venous pressure
		measurement or central venous pressure

				 continuous measurement of blood glucose continuous measurement of blood pressure (Holter) 			
				1	× /		
			 measurement of blood glucose with glucometer gastroscopy, endotracheal intubation 				
			 artificial ventilation 				
				eal dialysis			
			-	actice will be held over three w	orking weeks with full		
				ours (eight hours a day). Four o			
			•	semester. Cycle rotations betw			
				he mentors will shift. The stud			
				a designated "activity diary",	which will be verified by		
- 10	-		the mentors sig				
13.	Interconn		Related to all su	ubjects in the study program.			
14.	between s		I comin a mod	aada			
14.	Description	study and	Learning metl				
		nethods in		the grand rounds of the Clinic the everyday work of the Pedia	strie departments		
	details	nethous m		the procedures form the field of			
15.		ilable time	180 hours	the procedures form the field (
13.	frame		100 110015				
16.	Forms of	teaching	16.1.	Lessons – theoretical lessons,			
	activities		16.2	hours			
			16.2.	Practical lessons (laboratory, auditory), seminars, team			
				work: hours			
			16.3.	Practice: hours	120 hours of exercises		
	Other for	ms of	17.1.	Project tasks: hours			
17.	activities		17.2.	Individual tasks: hours			
			17.3.	Studying at home: hours	60 hours of home learning		
18.	Requirem	nents for	Conditional cr	iteria:	· · · · ·		
	signature			ght to a final exam and score th			
				y for passing of the pediatrics e			
			obliged to attend the clinical practice and must master all the skills a				
			activities which are planned in the subject program				
19.	Methods	of assessment	<u> </u>				
	19.1.	Tests: points					
	19.2.	-	project, written a	nd oral			
		presentation: p					
	19.3.	Final exam: po					
		1					

20.	Grading criteria (points/grade)			The student is obliged to attend and actively participatein the clinical practice during three weeks, 15 workingdaysClinical practice scoreattendance33 points,participation (skills)34 points.The student must achieve a minimum score of 60points. The scoring is descriptive (passed).		
21.	Methods of monitoring the quality of the teaching process					udents of the subject, s who participate in the
	Literature					
		Mandatory liter	ature			
	22.1.	Number	Author	Title	Publisher	Year
		1.	<u>Kliegman R,</u> <u>Stanton B,</u> <u>Geme JS,</u> <u>Schor N,</u> <u>Behrman R</u>	Nelson Textbook of Pediatrics, 21th edition	New York: Elsevier	2019
22.		2.	Lissauer T, Clayden G	Illustrated Texbook of Pediatrics	New York: Elsevier	2011
		Additional litera	ature			
		Number	Author	Title	Publisher	year
	22.2.	1.	Rudolph M, Lee T, Leven M	Pediatrics and Children's health	McGraw Hill	2018

Atta	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	PEDIATRICS-SEM	INAR				
2.	Code	MED 614					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Method	ius Univers	ity in Skopje, Fa	culty of Medicine,		
	institute, chair,	Department of Pedia	Department of Pediatrics				
	department)						
5.	Degree of education	Integrated 6-year stu	dies				
	(first, second, third						
	cycle)						
6.	Academic	Year	Sixthh	Semester	Eleventh or twelfth		
	year/semester		(VI)		(XI or XII)		
7.	ECTS credits	1					

8.	Professo	r (when more	Assosiate Prof. Sonja Bojadzieva, PhD, MD - responsible professor				
0.		rs, responsible		are conducted by the			
		r is assigned)	Pediatrics	are conducted by the		le Department of	
9.		ge of the study	English				
~ •		itions for	-	s for attending the cla	sses: credit no	ints gained from the	
		g the classes	exam in Pedi	atrics and from the C	linical practice	e in Pediatrics	
10.	and takin	0		right to a final exam			
	subject's			ment and a power p			
11.		orogram goals				in the midst of a case	
11.		ences) and				The student receives the	
	study res			o become familiarize			
	study i cs	juits.	Pediatric casu		a with the oro	ader speetrum of	
12.	Subject (content in		al processing of cases	s from various	pediatric topics	
14.	v	y chapters and		solving of cases from			
	units, wi			entation during semin			
	results fo		- Case pres	citation during seinn	lars which are	problem-based	
	chapter	JI UVUI Y	The classes w	vill be held over five	days for four	hours each	
	chapter			vill be held during the			
13.	Intercon	naction		subjects in the study			
15.	between		Related to all	subjects in the study	program.		
14.		ion of the	Methods of l	aarning			
14.		s study and			the must again	a a mantan	
		methods in	• The classes are conducted by the professors as mentors				
	details	methous m	• The student actively participates in the discussion and in the public				
	uctails		case presentations				
				lent will work every of			
				al principle, will have			
			participate in "for or against " types of discussions				
			A tutorial system of education with problem solving will be conducted				
15.	Total ava	ilable time	30 hours				
	frame						
16.	Forms of	teaching	16.1.	Lessons-theor	etical		
	activities	-		lessons, hours			
			16.2.	Practical lessor	ns	20 hours of seminars	
				(laboratory, aud	litory),		
				seminars, team			
			16.3.	Practice: hours			
	Other forms of activities		17.1.	Project tasks: h	ours		
17.			17.2.	Individual tasks			
			17.2.			10 hours of home	
			17.3.	Studying at hor	ne: nours		
10	Doguinor	monta for	To complete	the cominenthe stude	mt is chliged t	learning	
18.		ments for			•	o attend and take active	
	signature	e	participation in the seminars, also to achieve the necessary score				
			minimum.				
19.	Methods	of assessment	1				
1/1	19.1.	Tests: points					
		-	/ • · · · · ·	1 1	. · ·	· · · · · · · · · · · · · · · · · · ·	
	19.2.		minar paper/project, written and oral			gnment written + oral	
		presentation: p	points		presentation		

	19.3.	Final exam: p	oints		Solving of a c assignment)	ase (seminar
					min. – max. Written part Oral presenta 30	points 15 - 30 ation points 15 -
20.	Grading criteria (points/grade)			min max.Seminars*points30 - 40*The seminars are held over five days , for four hourseach . Attendance : 4 points; participation: 4 pointsThe student must achieve minimum 60 pointsThescoring is descriptive (passed).		
21.	Methods of monitoring the quality of the teaching process			Anonymous evaluation by the students of the subject, the teachers and the collaborators who participate in the education		
	Literatur					
		Mandatory lit	-	T:4	Publisher	N/
	22.1.	Number	Author	Title		Year
		1.	<u>Kliegman R,</u> <u>Stanton B,</u> <u>Geme JS, Schor</u> <u>N, Behrman R</u>	Nelson Textbook of Pediatrics, 21th edition	New York: Elsevier	2019
22.		2.	Lissauer T, Clayden G	Illustrated Texbook of Pediatrics	New York: Elsevier	2011
		Additional lite	erature			
		Number	Author	Title	Publisher	year
	22.2.	1.	Rudolph M, Lee T, Leven M	Pediatrics and Children's health	McGraw Hill	2018

Atta	achment 3	Integrated cycle of studies – Subject program			
1.	Subject	RATIONAL DRUG PRESCRIBING AND NATURAL WAYS OF			
		HEALING			
2.	Code	MED 615			
3.	Study program	General Medicine			
4.	Institution (unit,	Ss Cyril and Methodius University in Skopje, Medical Faculty, Department			
	institute, chair,	of Preclinical and Clinical Pharmacology with Toxicology			
	department)				
5.	Degree of	Integrated 6-year studies			
	education (first,				

	second, third					
	cycle)					
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh or twelfth (XI or XII)	
7	ECTS credits	2		÷	•	
8.	Professor (when	Prof. Dimche Zafiro	v PhD, MD –respo	nsible teacher		
	more professors, responsible professor is assigned)	*Lectures held by pr Clinical Pharmacolo		*	Preclinical and	
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: Fulfiled condition to inroll in the VII semestar. In order to take the final exam, the student should obtain the minimum points in the continual assessments; If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam.				
11.	Subject program goals (competences) and study results:	 Gaining knowledge about the basic concept of rational pharmacotherapy; Making assessment and use of the concept for making a choise for a "personal" medication; Gaining basic knowledge about the natural ways of healing, especially about the herbal medicines 				
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Basic principles of rational drug prescribing. Rational drug prescribing for selected indications. Natural ways of healing. Herbal medicines, efficacy and safety associated with the use of the herbal medicines. Practical lessons: Evaluation and solving of case-reports by using the concept for making a choise for a "personal" medication for selected diseases (practical excercises and seminars). 				
13.	Interconnection between subjects	Related to all subjec	ts in the study prog	gram.		
14.	Description of the subject's study and working methods in details	Interactive teaching during lectures, practical trainings and seminars.				
15.	Total available time frame	60 classes				
16.	Forms of teaching activities	16.1.	Lessons – theoreti hours	cal lessons,	30	

17.	Other for activities	ms of	16.2. 16.3. 17.1. 17.2. 17.3.	Practical lessons (labora auditory), seminars, tear work: hoursPractice: hoursProject tasks: hoursIndividual tasks: hoursStudying at home: hours	n			
18.	signature theoretical an If the studen assessments,			t a signature, the student should obtain minimum points in both d practical courses, and to present. In thas not obtained the minimum points in the continual he/she will be obligated to pass them before the final exam				
19.	Active particle Theoretical compractical courses Methods of assessment			ourse		$\begin{array}{c} \min-\max\\ 3-5\\ 10-15 \end{array}$		
19.	19.1.	Tests: po				min – max		
	17.1.	1 ests. p	Jints	Continual assessment - poin	ts	12 - 20		
						12 20		
				*1 written test with case-reported included for individual dosage adjustement (team work)				
				The student is obligated to ach points for each part of the as assessment. Otherwise the final exam is co	sessment to pass			
	19.2.	Seminar paper/pr written a presenta	oject,	Seminar paper		$\frac{\min - \max}{24 - 40}$		
	19.3.		am: points			min – max		
	17.5.	I mai ex	ini. points	Oral examination*	points	6 - 10		
				Practical examination**	points	6 - 10		
				*Oral examination (integrati knowledge. **Practical examination (ca prepared for the practical course	ve) – Interactive talog skills) – T	evaluation of		
				The student has to fulfill the minimum recuired points for every part of the examination in order to be able to get the scores for the final examination. Otherwise the final exam is considered failed.				
				The grade in the final exam is table, and on the basis of the s the activities.				

20	Cuading	anitania (n	sinta/anada)	Up to 59 points		5 (five) (F)	
20.	Grading criteria (points/grade)			From 60 to 68 points		$\frac{5(\text{IIVe})(\text{P})}{6(\text{six})(\text{E})}$	
				1			
				From 69 to 76 points		$\frac{7 \text{ (seven) (D)}}{9 \text{ (sight) (C)}}$	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
				From 93 to 100		10 (ten) (A)	
01		e •4	• 41 1.4 6	points		1 1	
21.			ing the quality of	Student anonymous ev			
		ing process	8	and associates particip	ating in the tea	iching	
	Literature						
		Mandator	y literature				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Sharon E. Straus et al	Evidence-Based Medicine: How to Practice and Teach EBM	New York: Elsevier	2018	
		2.	Schulz V, Hansel R, Tyler VE	Rational phytotherapy	Berlin Heidelberg: Spinger- Verlag	2001	
22.	-	Additional literature					
		Number	Author	Title	Publisher	Year	
	22.2.	1.	Capaso F, Gaginela T, Grandolini G, Izzo A.	Phytotherapy, a quick reference to herbal medicine	Berlin: Springer	2003	
		2.	Zafirovska K et al.	Guidelines for implementing of evidence based medicine	Ministry of Health of R. Macedonia	2012	
		3.	Rang and Dale's: H.P.Rang, M.M.Dale, J.M. Ritter, R. Flower	Pharmacology, Ninth edition	New York: Elsevier	2020	

Numl	per:62			
Atta	achment 3	Integrated cycle of studies – Subject program		
1.	Subject	FAMILY MEDICINE – CLINICL PRACTICE		
2.	Code	MED 616		
3.	Study program	General medicine		
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Family Medicine		

5.	Degree of education (first, second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh or twelfth (XI or XII)		
7	ECTS credits	2	(1)				
<i>,</i> 8.	Professor (when more		PhD MI)			
0.	professors, responsible professor is assigned)	Prof. Katarina Stavrikj - PhD, MD					
9.	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attend Family medicine subjec		asses: completed	l exam and credits from		
11.	Subject program goals (competences) and study results:	Understand the organization of primary care practice and integrate their acquired knowledge and skills using the basic principles of family medicine in solving the common patient problems.					
12.	Subject content in details by chapters and units, with study results for every chapter	medicine in solving the common patient problems. Subject content: The student at the end of the practical work will:					

13.		terconnection Related to all subjects in the study program.					
14	between s	v					
14.	Description of the subject of the su			Participation in the daily work in the practice under supervision of an educator - GP. During the stay, it is necessary to perform the following clinical skills			
	subject's s	nethods in					
	details	liethous m				ing BMI, performing	
	uctans			n of ECG, calculate			
			examination of b		eurorovaseurar	nsk, ennieur	
				a case from practice a	and preparation	n of a presentation.	
15.	Total avai	lable time	60	A		*	
	frame						
16.	Forms of t	teaching	16.1.	Lessons-theoretic	cal lessons,		
	activities			hours			
			16.2.	Practical lessons (1			
				auditory), seminars	s, team work:		
			16.0	hours		10	
		c	16.3.	Practice: hours		40	
17	Other for	ms of	17.1.	Project tasks: hour			
17.	activities		17.2.	Individual tasks: hours			
			17.3.	Studying at home:		20	
18.	signature GP's			To obtain the signature, student is required to attend the practical work in a			
				GP's practice for 5 days and to achieve all clinical skills planed in the			
			subject program				
19.	Methods of	of assessment	The assess	nent of the student	is descriptive	(passed)	
	19.1.	Tests: points				-	
	19.2.	Seminar pap	er/project, written	and oral			
		presentation					
	19.3.	Final exam:	p	oints min-max			
		Written part	-	18-30			
		Oral part		20-30			
		Seminar essa		5-12			
			Theoretical part	5-10			
• •	<i>a</i> 11		Practical part	12-18			
20.	Grading c	riteria (point	s/grade)	Up to 59 points		5 (five) (F)	
				From 60 to 68		6 (six) (E)	
				points		$\overline{7}$ () (D)	
				From 69 to 76		7 (seven) (D)	
				points From 77 to 84		9(a; a; b)(C)	
				points		8 (eight) (C)	
				From 85 to 92		9 (nine) (B)	
				points		9 (mmc) (D)	
				From 93 to 100		10 (ten) (A)	
				points			
21.	Methods	of monitoring	the quality of	· ·	nous evaluatio	on of the subject and	
		21. Methods of monitoring the quality of the teaching process				eaching process.	
22.	Literature	÷.				01	

	Mandatory I	Mandatory literature							
	Number	Author	Title	Publisher	Year				
22.1.	1.	Rachel R.	Textbook of family medicine	Philadelphi: Saunders	2015				
	Additional li	terature							
22.2.	Number	Author	Title	Publisher	Year				
	1.	Stavrikj K, Petrovski G, Nikolovska S, Kiteva Trenceva G, Gerasimovska B, Stojanovski Z	Family medicine (on line available)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Family Medicine	2013				

Atta	achment 3	Integrated cycle of stu	dies – Subject	program			
1.	Subject	PUBLIC HEALTH - O	CLINICAL PF	RACTICE			
2.	Code	MED 617					
3.	Study program	General Medicine					
4.	Institution (unit,	Ss Cyril and Methodius	University in S	Skopje, Facul	ty of Medicine,		
	institute, chair,	Department of Epidemi					
	department)	Department of Occupati		· •	of		
		Social Medicine, Depar		ene			
5.	Degree of education	Integrated 6-year studies	S				
	(first, second, third						
	cycle)		1	1			
6.	Academic	Year	Sixth (VI)	Semester	Eleventh - twelfth		
	year/semester				(XI-XII)		
7	ECTS credits	4					
8.	Professor (when	Prof. Jordan Minov, Phl	·				
	more professors,	*education process is pe					
	responsible	Department of Epidemi					
	professor is	Department of Occupati		· 1	of		
	assigned)	Social Medicine, Depar	tment of Hygie	ene			
9.	Language of the	English					
	study						
	Preconditions for	Acquired credits (passed					
10.	attending the	Epidemiology, Occupational medicine, Social Medicine and Hygiene.					
	classes and taking	In order to get access to the final exam, the student must finish the seminar					
	the subject's exam	work.					
11.	Subject program				actice of public health in		
	goals (competences)	the field of epidemiolog	y and biostatis	tics, occupati	onal medicine, social		
	and study results:	medicine and hygiene.					

12.	Subject content in	Theoretical course:
	details by chapters	Epidemiology and Biostatistics
	and units, with	
	study results for	Epidemiology
	every chapter	• Epidemiological principles, models, epidemic process, prevention
		measures
		• Epidemiological methods (descriptive, analytical, experimental)
		• Epidemiological features of certain communicable and non-
		communicable diseases
		Biostatistics
		Descriptive statistical methods
		Analytical methods
		Vital statistics
		Occupational Medicine
		• Work place, work environment, professional risk - assessment of
		the effects of occupational exposure on the health of exposed
		workers
		• Occupational diseases, work-related diseases and injuries at work:
		clinical (diagnostic, therapeutic procedures) - preventive and public
		health aspects in practice
		Work ability assessment, absence, disability, rehabilitation
		• Preventive Strategy - levels and measures; workplace health
		promotion (multidisciplinary and intersectoral approach); legislative
		 aspects (examples and solutions in practice) Interventional public health prevention programs (examples)
		• Interventional public health prevention programs (examples, analysis, recommendations) in occupational medicine
		anarysis, recommendations) in occupational medicine
		Social Medicine
		• Evaluation of health, individual and community health
		Health care system - organization and evaluation
		Priority public health problems, risks, strategies, policies
		Health promotion and disease prevention
		Health Policy, Health Economics and Management: analysis of policies and good practice
		poncies and good practice
		Hygiene
		Application of the basic methodological approach for eco-
		toxicological risks assessment
		 Exposure and health risk assessment from physical, chemical,
		biological and radiological agents in the environment
		 Regulations, standards and food safety monitoring
		 Nutrition and physical activity, public health importance through
		practical examples

				and policies to determ d of environmental hea			
			 Practical course: The study program will be arranged within 2 working weeks (full time 8 hours). Four courses will be organized during the XI and XII semester. Students are organized in groups consisting of 2-5 members (students) on mentor principle by the professors and assistants. During the course different departments and mentors are taking place. Student's daily activities will be registered in a separate "Diary of activities" which will be verified by a mentor's signature 				
13.	Intercon between		Related to all sub	jects in the study progr	am.		
14.	Descript subject's	ion of the study and methods in	 Interactive work, work on mentor's principle, individual work, work in small groups, problem solving Processing, reporting and case resolving of different segments of public health practice Data analysis, computer simulation Evaluation of the scientific literature, consulting, essays, seminar papers Problem resolving designed seminars, public presentation, discussion 				
15.	Total ava frame	ailable time	120 hours				
16.		f teaching	16.1. 16.2. 16.3.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours 80		80	
	Other for	rms of	17.1.	Project tasks: hours			
17.	activities	5	17.2.	Individual tasks: hou			
			17.3.	Studying at home: he		40 hours	
18.	Require	ments for e		a signature and get acc practical work and obt			
19.		of assessme					
	19.1.	Tests: point					
	19.2.	Seminar pa presentation	per/project, written n: points	and oral Seminar wo public presentation min : points 36 -		- max.	
					Practical cou	urse *	

	19.3.	Final exam	-			points 24 * The course 10 days by 8 Presence: 2 p points The student s minimum 6 p of the practice biostatistics, o	oints of each subject e (epidemiology and occupational cial medicine and	
20.	Grading	g criteria (poi	ints/grade)		Up to 59 points From 60 to 68 points		5 (five) (F) 6 (six) (E)	
					From 69 to 76 points		7 (seven) (D)	
					From 77 to 84 points		8 (eight) (C)	
					From 85 to 92 points	9 (nine) (l		
					From 93 to 100 points	10 (ten) (A)		
21.			ng the quality o	of		s evaluation of the subject, teachers volved in the educational activities		
	the teac Literatu	hing process			and collaborators inv	volved in the ec	lucational activities	
	Literatu	1	1.4					
		Mandatory literature						
		Number	Author		Title	Publisher	Year	
		1.	Tulchinsky T		The New Public	New York:	2015	
		2.	Varavikova E Wallace/Maxo		Health, 3rd Edition Public Health &	Elsevier Chicago:	2008	
		2.	Rosenay-Last	•	Preventive	The Mc	2008	
					Medicine	Graw-Hill		
						Companies.		
22.	22.1.	2	V l l	1	Managa 1 fau	Inc	2021	
		3.	Kochubovski Ristovska G,	м,	Manual for hygiene and	Skopje, Faculty of	2021	
			Spiroski I,		Environmental	Medicine		
			Petrova A.		health			
		4.	Fries R		Epidemiology for Public Health	Atlanta: CDC	2011	
					rublic riealui	CDC		
		Aditional li	l terature					
		Number	Author		Title	Publisher	Year	
					11110	1 uonsilei		

	1.	Novik LF, Morrow CB, Mays GP	Administration of Public Health: principles for management based on population	Skopje: Academic Press	2011
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	ber:64 achment 3			dies – Subject			
1.	Subject	SURGERY-	SURGERY-CLINICAL PRACTICE				
2.	Code	Med 621					
3.	Study program	General Med	icine				
4.	Institution (unit,	Ss Cyril and	Methodius	University in S	Skopje, Faculty of Medicine,		
	institute, chair,	Department of	of Surgery	·			
	department)						
5.	Degree of education	Integrated 6 -	year studi	es			
	(first, second, third	_					
	cycle)						
6.	Academic	Year	Sixth	Semester	Eleventh (XI) or twelfth (XII)		
	year/semester		(VI)				
7	ECTS credits	15 credits					
8.	Professor (when more				onsible professor		
	professors, responsible	*Lectures hel	ld by the p	rofessors from	the Department of Surgery		
	professor is assigned)						
9.	Language of the study	English	English				
	Preconditions for						
10.	attending the classes	There are no tests for this subject, the student is passed if she/he achive					
10.	and taking the	minimum points of the practical course					
	subject's exam						
11.	Subject program goals	•	•	stic and therap	eutic procedures in the field of		
	(competences) and	clinical surge	ery				
	study results:						
12.	Subject content in				g on every department		
	details by chapters and				ination on the departments of:		
	units, with study		ominal Sur	•••			
	results for every		atric Surge				
	chapter			lar surgery			
		Urole					
			osurgery				
			matology				
		Plastic Surgery					
			sive care				
		 Participation in the daily work in clinics 					
				everyday surgi	ical work on the surgical		
			rtments	. .			
					iconscious state		
					unconscious state (ventilatory		
		and c	cardiac rest	uscitation)			

13.	Interconnection between subjects Description of the subject's study and working methods in	 First Imit bart Tration Tration Lood Given Flation Secons Plation Secons Plation Secons Plation Secons Plation Secons Plation Secons Secons Plation Secons Seco	dder, appendix surgery) estigation of large joints her minor interventions all subjects in the study prog actice will be organized wit burs. There will be 2 tensus	suture intravenous infusions rectal tushe e nnula r ture ernia plastic, gall surgery gall
	details	activities of that will be	f the student will be record verified with the mentor's s	ed in a separate log of activities
15.	Total available time frame	450 hours c	lasses	
16.	Forms of teaching activities	16.1. 16.2.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work: hours	320
		16.3.	Practice: hours	
17	Other forms of	17.1.	Project tasks: hours	
17.	activities	17.2.	Individual tasks: hours	65 classes
		17.3.	Studying at home: hours	65 classes
18.	Requirements for signature		e required to attend and acti seminar work.	vely participate to the practical
19.	Methods of assessment			

	19.1.	Tests: points			There are no tests for this subject, the student is passed if she/he achive minimum points of the practical course			
	19.2.	Seminar paper presentation: p		en and oral	after the prac	Students are required to do a seminar work after the practical course. The field of work for the seminar paper is delegate by a mentor		
	19.3.	Final exam: po	pints		The student is required to attend and actively participate. The student should score at least 60 points. The student's assessment is descriptive (passed) *Practice: 20 days for 8 hours The student assessment is descriptive			
20.	Cuading	auitania	Un	to 59 points	(passed)	5 (five) (F)		
20.	Grading (points/gr			to 68 points		$\frac{5(\text{IIVC})(\text{I})}{6(\text{six})(\text{E})}$		
	(points/gi	lauej		to 76 points	7 (seven) (D)			
				to 84 points	8 (eight) (C)			
				to 92 points	9 (nine) (B)			
				o 100 points	10 (ten) (A)			
21.	Methods	of monitoring t		1	onymous evaluation of the subject, the			
		ching process	I V			participating in the teaching		
	Literatur	·e						
		Mandatory liter	rature					
		Number	Author	Title	Publisher	Year		
22.	22.1.	1.	Townsend CM, Beauchamp D,	Sabiston textbook of surgery	New York: Saunders	2008		
22.		Additional lite	rature	•				
		Number	Author	Title	Publisher	year		
	22.2.	1.	Greg McLatchie, Borley N, Chikwe J	Oxford Handbook of Clinical Surgery	Oxford University Press	2013		

Numł	per:65				
Attachment 3		Integrated cycle of studies – Subject program			
1.	Subject	SURGERY - SEMINAR			
2.	Code	Med 622			
3.	Study program	General Medicine			
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Medical Faculty,			
	chair, department)	Department of surgery			

5.	Degree of education (first, second, third cycle)	Integrated 6-	year studies				
6.	Academic year/semester	Year		sixth (VI)	Semester	Eleventh (XI) or twelfth (XII)	
7	ECTS credits	1					
8.	Professor (when more	Associate Pro	of. Oliver Sta	unkov, PhD, N	/ID - responsit	ole professor	
	professors, responsible	*Lectures he	ld by the pro	fessors from t	he Departmen	t of Surgery	
	professor is assigned)						
9.	Language of the study	English				~	
	Preconditions for				passed exam		
10.	attending the classes and taking the subject's exam					end and actively icted points for the	
11.	Subject program goals (competences) and study results:	On seminars that are problematically conceptualized with case repot on patients, the current pathology is being processed. The student gets the opportunity to familiarize the wide surgical goal					
12.	Subject content in details	Theoretical					
	by chapters and units,				or adequate top	pics	
	with study results for		U	adequate topi			
	every chapter	 Problems conceptualized seminars combined with the case report Teaching is organized for 5 days after 4 hours. will be organized 2 tours during the XI and XII semester Practical course: Students are asignet to do seminar work 					
13.	Interconnection between		-	he study prog			
	subjects		5	51 6	,		
14.	Description of the subject's study and working methods in details					c presentations of stem rotation in a meeting with r" and "against". lressing cases eate a diagnostic	
15.	Total available time frame	Crucial Skills: The student will be able to make the proper choice of treatme particular disease with appropriate to the specifics of the indiv patient are 30 hours classes					
16.	Forms of teaching activities	16.1.		heoretical less	sons,		
		1.6.2	hours	<i></i>			
		16.2.		ssons (laborat eminars, team	•		

			16.3.	Practice: hours		20	
	Other for	ms of activities	17.1.	Project tasks: hours			
17.			17.2.	Individual tasks: hours	5		
			17.3.	Studying at home: hou	ırs	10	
18	Requirem			et a signature, the studer the seminars and to get			
19	Methods	of assessment					
	19.1.	Tests: points			If the student has not obtained the minimum points, he/she will be obligated to pass them before the final seminar (power point) presentation.		
	19.2.	Seminar paper/pr points	oject, written	The student's a descriptive (p			
	19.3.	Final exam: poin	ts		The student's a descriptive (p		
20	Grading of	criteria (points/grade	e)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points From 93 to 100		9 (nine) (B)	
				points		10 (ten) (A)	
21.	Methods teaching	of monitoring the q	uality of the	Student anonymous ev and collaborators parti			
	Literature			·		~	
		Mandatory literatu	ıre				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Greg McLatchie, Borley N, Chikwe J	Oxford Handbook of Clinical Surgery		2013	
22.		2.	Townsend CM, Beauchamp D,	Sabiston textbook of surgery	New York: Saunders	2008	
		Additional literatu	ire				
		Number	Author	Title	Publisher	year	
	22.2.	1.	Bakli LS, Shilagi PG.	Bates' Clinical Reviews and Landing History	Philadelphia: LWW	2012	

Atta	achment 3	Integrated cycle of studies – Subject program
1.	Subject	GYNECOLOGY AND OBSTETRICS- CLINICAL PRACTICE
2.	Code	MED 623
3.	Study program	General Medicine
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Gynecology and Obstetrics
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies
6.	Academic year/semester	Year Sixth Semester Eleventh or twelfth (XI)
7	ECTS credits	7
8.	Professor (when more professors, responsible professor is assigned)	Associate Prof. Ana Daneva Markova, PhD, MD - responsible professor *Lectures held by the professors from the Department of Gynecology and Obstetrics
9.	Language of the study	English Language
10.	Preconditions for attending the classes and taking the subject's exam	Preconditions for attending the classes: credits achieved (passed exam) from Gynecology and obstetrics. In order to take an exam the student should earn a minimum of 60 points. The student's assessment is descriptive (passed).
11.	Subject program goals (competences) and study results:	Objectives of the course program (competences): Introduction to the diagnostic and therapeutic procedures in the area of urgent gynecology and obstetrics. Results: To obtain basically knowledge and skills in evaluation, diagnosis, and treatment of patients with gynaecological/ obstetrical issues
12.	Subject content in details by chapters and units, with study results for every chapter	 Course content: Perinatalogy Filling in obstetric history and birth protocol Obstetric examination: a condition of the cervix, dilatation, fetal heals, presentation, advancement of birth. Obstetric examination: pelvimetry, amnioscopy. Monitoring of the mother: cardiotocography, ph-metric intra partum, ph - blood metric from a new-born Participation in spontaneous labor: head and pelvic treatment, repair of soft-tissue cleavage and episiotomy Assistation in delivery with caesarean section and vaginal delivery obstetric operations: vacuum, forceps, baby extraction Neonatal treatment An ultrasound examination of a pregnant woman in the first half of pregnancy Participation in everyday work in the clinic for risky pregnancy

		Partic	ipation in the work of the Intensi	ve Peripartum Care Unit
			cology:	A
			cological examination, taking a s icolau, colposcopy examination	wab for microbiology and
			ipation in the daily work of the g g a history, filling in gynecologic	
		biopsy • spiral • Ultras	ance in small gynecological inter y, insertion, cyst posture, cystoscop sound gynecological examination cance to major gynecological surg	ру
		invasi	al hysterectomy • Assistance in ve gynecological operations: oscopy, laparoscopy, TVT and T	
			esis ing in a gynecological clinic: uro ogical, ultrasound, colposcopic, a	
			luction, cytogenetic laboratory, i	
			y Planning and Contraception, Attack in first and second trimeste	
			s carried out within 4 working w nized in 4 rounds during the XI a	
		•	n the maternity room	
		•	n one operational unit n the clinic for risky pregnancies	
		-	n the colposcopy clinic and the g	
		clinic		
			in groups of 2-5 students on a m d assistants. During the tour, the	
		Everyday act	ivities of the student will be recon at will be verified with the mento	
13.	Interconnection between subjects	Related to all	subjects in the study program.	
14.	Description of the	•	mall groups under the close super	rvision of mentor (student
	subject's study and working methods in details	/ mentor meth	nod)	
15.	Total available time frame	210 classes		
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	/
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	
		16.3.	Practice: hours	160
	Other forms of activities	17.1.	Project tasks: hours	/

17.			17.2.	Individual tasks:	hours	50
1.1			17.3.	Studying at hom		/
18	Requiren signature				ninimum of 80%	6 of planed classes and hours daily)
19	Methods	of assessment		X		U /
	19.1.	Tests: points				/
	19.2.	Seminar paper/ presentation: p	project, written oints	and oral		100 points
	19.3.	Final exam: po	ints			/
20.	Grading	criteria (points/g	grade)	The student shou points. The stude descriptive (pass	ent's assessment	
21.	the teach	of monitoring th ing process	e quality of	Student anonyme and associates pa		of the course and teachers eaching.
	Literatur	e Mandatory lite	rature			
	22.1.	Number	Author	Title	Publisher	Year
		1.	Richa S	Practical guide to Obstetrics and Gynecology	New Delhi: Jaypee Brothers Medical publishers Ltd.	2015
22.		2.	Bickerstaff H, Kenny C L.	Gynaecology by ten Teachers, 20 th Edition.	London, New York: CRC Press	2017
22,		3.	Kenny CL, Myers JE	Obstetric by ten Teachers, 20 th Edition.	London, New York: CRC Press	2017
		Additional litera	ature			
		Number	Author	Title	Publisher	year
	22.2.	1.	Hoffman B, Schorge J, Halvorson L, Karen Bradshaw K, Cunningham F	Williams Gynecology Second Edition	Chicago: McGraw Hill Profesional	2012

2.	Cunningham	Williams	Chicago:	2009
	F,	Obstetric	McGraw Hill	
	Leveno K,	23 rd Edition	Professional	
	Bloom S,			
	Hauth J,			
	Rouse D,			
	Spong C			

	nber:67						
	chment 3	Integrated cycle of stu	dies – Subjec	t program			
1.	Subject	GERONTOLOGY					
2.	Code	MED - 626					
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss Cyril and Methodius	University in	Skopje, Fac	ulty of Medicine,		
	chair, department)	Department of Internal					
5.	Degree of education (first, second, third cycle)	Integrated 6-year studie		_			
6.	Academic year/semester	year	Sixth (VI)	Semeste r	Eleventh or twelfth (XI or XII)		
7.	ECTS credits	2					
8.	Professor (when more	Assistant professor Beti	Todorovska,	MD, PhD - 1	responsible		
	professors, responsible	professor			*		
	professor is assigned)	* teaching is conducted	by all teaching	g staff at the	e Department of		
		Internal Medicine					
9.	Language of the study	English					
	Preconditions for attending	Preconditions for atten		ses: obtaine	ed credits (passed		
	the classes and taking the	exam) of Internal Medicine.					
10.	subject's exam	In order to take the example					
		practical part of the stud		vell as to ob	tain the minimum		
		number of required point					
11.	Subject program goals				t of interdisciplinary		
	(competence) and study			, as well as	s its position in the		
	results:	medical discipl		. 1 1			
				nternal dise	diseases that affect the		
		geriatric popula					
			-	ities in thera	apy approach in the		
12.	Subject content in details by	geriatric popula Theoretical course:	11011				
12.	chapters and units, with	Geriatric pulmo	nary diseases	(narticularit	ties in natient		
	study results for every	medical history	•	A			
	chapter	procedures in g					
	enupter	pulmonary syst					
		 Particularities of 	· · ·	eases of the	cardiovascular		
					ent approach in the		
					vascular diseases);		
					s, myelodysplastic		
					platelet disorders,		
		coagulation dis	orders);	-	-		
		Geriatric renal	diseases: prim	ary and seco	ondary		

		Pra	 glomerulopathy, tubulointerstitial diseases, acur chronic renal insufficiency, urinary tract infection Geriatric endocrine diseases: diabetes, thyroid of osteoporosis and osteomalacia; Geriatric rheumatic diseases: degenerative join osteoporosis, rheumatoid arthritis, systemic lup sclerosis, gout, polymyalgia rheumatic, fibromy rehabilitation, physical activity and exercise; Diseases of the gastrointestinal system: acute gastrointestinal conditions, esophageal diseases and duodenum, diseases of the small and large diseases of the anorectal region, hepatic and bil diseases, and their distinctiveness in the geriatr population; Polypharmacy in the geriatric population and ir treatment of a geriatric patient with a disease or The student shall acquire knowledge and skills treatment of a geriatric patient with a disease or evaluation and treatment. 	ions; lisorders, t diseases, us, systemic yalgia, , stomach intestine, liary tract ic ntoxications. in care and in ill state. cquired
13.	Interconnection between subjects	Rela	ated to all subjects in the study program	
13.	Description of the subject's study and working methods in details	Inte	ractive lectures and practical activities, individual st	tudying.
15.	Total available time frame		hours -40 hours theoretical teaching and practice; 20 ying at home	0 hours
16.	Forms of teaching activities	16.1	Theoretical teaching	16 hours
		16.2	1	24 hours
17	Other forms of activities	17.1		
17.		17.2	6	201
10	Doguinomento for sime tores	17.3	ditional criteria:	20 hours
18.	Requirements for signature and attending the final exam	In o theo the r in a	rder to acquire a signature, the student must attend to oretical and practical part of the study course, as wel minimum number of required points. The grade is the coordance to the grading table based on the total point required activities and exams.	l as to obtain hen formed
19		r		
	19.1. Tests: points			
	19.2. Final exam	1	Oral exam* * The oral exam includes acquired knowledge revie theoretical part, as well as clinical practice, conducto processing and presentation of an assigned clinical	ed via case.
	19.3. Active participatio	n		min – max

				Theoretical teaching*			1 - 5		
				Clinical practice**	-11. (00/		30 - 48		
				* Attendance at theoretical lectures: 51-60% - 1 pt.; 61-70% - 2 pts.; 71-80% - 3 pts.; 81-90% - 4 pts.; 91-100% - 5 pts.;					
				** The clinical practice					
				days, 8 hours daily, with					
				clinical practice, for whi attendance: 2 points, act		eceive poin	ts.		
20	Gradin	g criteria (j	points/grade)	Up to 59 points		5	(five) (F)		
		8 1		From 60 to 68 points			(six)(E)		
				From 69 to 76 points			even) (D)		
				From 77 to 84 points			eight) (C)		
				From 85 to 92 points			nine) (B)		
				From 93 to 100 points			(ten)(A)		
21.	Method	ls of monito	oring the	Student anonymous eval	luation for the subject	, teachers a	nd		
			ning process	associates participating	in the teaching.				
	Literat	ure							
		Mandato	ry literature						
		Number Author		Title	Publishe	r	Year		
	22.1.	1.	Pathy J,	Principles and Practice	New York: Wiley		2006		
			Sinclair A,	of Geriatric Medicine,					
			Morley J	4 th Edition					
		2.	Beers MH,	The Merck Manual of	Rahway: Merck re	esearch	2000		
22.			Berkow R.	Geriatrics	laboratories				
		Additiona	l literature:						
		Number	Author	Title	Publisher	Ye	ear		
		1.	Goldman L,	Goldman-Cecil	New York:	2023			
	22.2.		Ausiello D.	Medicine, 27th edition	Elsevier				
		2.	Loscalzo J.	Harrison's Principles	Chicago: McGraw	2022			
			et al.	of Internal Medicine	Hill				
				21th edition					
		3.	Durakovich	Geriatrics: Medicine	Zagreb: ST –	2007			
			Z et al.	of the Elderly	poslovne				
					informacije				
Nun	1ber:68								

-	achment 3	Integrated cycle of studi	ies – Suł	oject progra	m
1.	Subject	PALLIATIVE MEDICI	NE		
2.	Code	MED 627			
3.	Study program	General Medicine			
4.	Institution (unit, institute,	Ss Cyril and Methodius U	Iniversit	y in Skopje, I	Faculty of Medicine,
	chair, department)	Department of Internal M	edicine		
5.	Degree of education (first,	Integrated 6-year studies			
	second, third cycle)				
6.	Academic year/semester	year	Sixth	Semester	Eleventh or twelfth
			(VI)		(XI or XII)
7.	ECTS credits	2			

8.	Professor (when more	Assistant professor Beti Todorovska, MD, PhD- responsible
0.	professors, responsible	professor
	professor is assigned)	* teaching is conducted by all teaching staff at the Department of
	professor is assigned)	Internal Medicine
9.	Language of the study	English
	Preconditions for attending	Preconditions for attending the classes: obtained credits (passed
	the classes and taking the	exam) of Internal Medicine.
10	subject's exam	In order to take the exam, the student must attend the theoretical
10.		and practical part of the study course, as well as to obtain the minimum number of required points.
11.	Subject program goals (competence) and study results:	 Introduction to palliative medicine as part of interdisciplinary science of internal medicine; Introduction to the particularities of palliative medicine; Introduction to the particularities in therapy approach in patients seeking palliative care and terminally ill patients; Introduction to the ethical and legal aspects of palliative medicine; Pain treatment with pharmacological and non-pharmacological agents; Adoption of communication models and special circumstances.
12.	Subject content in details by	Theoretical course:
12.	chapters and units, with study results for every chapter	 Basics of palliative medicine (manner of organizational setup, international development); Types and ways of organizing palliative care – ambulatory, hospital and consultative Pain and symptom management – interdisciplinary approach; Gastrointestinal symptoms (constipation, diarrhea, nausea, vomiting); Pulmonary symptoms (dyspnea, cough); Terminally ill patient care; Physiological and pshychological aspects of palliative medicine; Ethical and legal aspects of palliative medicine; Teams for providing palliative care; Patient communication, family requiring palliative care.
		 Practical course: The student shall acquire knowledge on the most common condtions in palliative care, ways of providing palliative care and organization; The student shall acquire skills needed to recognize terminally ill patients, the most common indications for palliative care, recognization of the specifics, as well as manner of communication with the patient and the family in special situations.
13.	Interconnection between subjects	Related to all subjects in the study program

14.	Descripti	on of the subject's	Interactiv	e lectures and	practical activities, i	ndividual studving
1.10		working methods	interactiv		praetieur aetri rites, r	narviadar stadying.
	in details	8				
15.	Total ava	ilable time frame	60 hours -	- 40 hours theo	pretical teaching and	practice; 20 hours
			studying a			-
16.	Forms of	teaching activities	16.1	Theoretical te	V	8 hours
			16.2		ratory, clinical,	32 hours
				seminars, tear	/	
18	Other for	ms of activities	17.1	Project assign		
17.			17.2	Individual ass		
			17.3	Studying at h		20 hours
18.		ents for signature			nature, the student n	
	and atten	ding the final exam			part of the study co	
					nber of required poi	
						nce with the grading
			and final		otal point sum from	the required activities
19.						
17.	19.1.	Tests: points				
		-				
	19.2.	Final exam	Oral	exam*		min. – max. points 29-
			47	exam		points 29-
				e oral evam in	cludes acquired know	wledge review from the
					well as clinical prac	
					sentation of an assig	
	19.3.	Active participation	<u>^</u>	8 F	8	min – max
		rice participation		oretical teachin	<u>ا</u> و*	points $1-5$
				ical practice**		points $30-48$
						-60% - 1 pt.; 61-70% -
			2 pts	s.; 71-80% - 3 j	pts.; 81-90% - 4 pts.	; 91-100% - 5 pts.;
						cted in the period of 5
						ities in the journal for
			clini			shall receive points.
•••) II		endance: 2 points, ac	-
20.	Grading	criteria (points/grade		to 59 points		$\frac{5 \text{ (five) (F)}}{5 \text{ (five) (F)}}$
			F	From 60 to 68 points		6 (six) (E)
				1		7(aavan)(D)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84		8 (eight) (C)
				points		o (eight) (C)
			A A	From 85 to 92		9 (nine) (B)
				points		y (mile) (D)
			Fr	om 93 to 100		10 (ten) (A)
				points		
21.	Methods	of monitoring the	Stud	<u>^</u>	s evaluation for the s	subject, teachers and
		the teaching process			ating in the teaching.	
22.	Literatur					

	Mandatory literature								
	No Author		Author	Title	Publisher	Year			
22.1.	1.	1. MacDonald N, Oneschuk D, Hagen N.		Palliative medicine A case based	Oxford University Press	2012			
				manual, third edition					
	2. Bruera E, Yennurajalingam S.			Oxford American Handbook of	Oxford University Press	2011			
		5.		Hospice and Palliative					
				Medicine					
	Num	ber	Author	Title	Publisher	Year			
22.2.	1.		Wrede- Seaman L.	Symptom Management Algorithms: A Handbook for Palliative Care	Oxford University Press	2008			
	2.		Hanks G, Cherny IN, Christakis	Oxford Textbook of Palliative Medicine	Oxford University Press	2011			
]	NA, Fallon M.	(Oxford Textbook Series)					

Number:69

1.	Subject	CLINICAL MICRO	CLINICAL MICROBIOLOGY					
2.	Code	MED-625	MED-625					
3.	Study program	General Medicine						
4.	Institution (unit,	Ss Cyril and Methodiu	us University in S	kopje, Faculty of I	Medicine,			
	institute, chair,	Department of Microb	oiology and parasi	tology				
	department)							
5.	Degree of education	Integrated 6-year stud	Integrated 6-year studies					
	(first, second, third							
	cycle)							
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh/twelfth			
					(XI/XII)			
7	ECTS credits	1						
8.	Professor (when more	Associate Prof. Maja.	Jurhar Pavlova, P	hD, MD - respons	ible professor			
	professors, responsible	*Lectures held by the professors from the Department of						
	professor is assigned)	of Microbiology and parasitology						
9.	Language of the study	English						
10.	Preconditions for	Obtained credits (pass	ed exams) from M	Aicrobiology and p	parasitology 1 and			

		g the classes ng the subject's	Microbiology and	parasitology 2			
11.	(competer results: Subject c details by	chapters and h study results	 Microbiolo Characteris Diagnostic Antimicrob Introduction The relation resulting eff Etiological human bod manifestati Characteriss and surveil Selection o transportati Directions therapy in t 	causes of infections local y and multisystemic infect ons tics of intrahospital infect lance f appropriate sample for m on, processing and analyz for right compsumption and reatment of infections l prevention of infections	infections g in hospital env revention of inf y and its signifi- rganisms and th ised on particul tions with their tions, their disco nicrobiological zing of the resul nd surveillance	vironment <u>ections</u> cance le host with the ar system of the clinical overy, treatment investigation, its ts of antimicrobial	
13.	Interconr between s		Related to all subje	ects in the study program			
14.	between subjects Description of the subject's study and working methods in details		 Interactive theoretical teaching Problem based learning Individual analyses of microbiological results Presentation and discussion on seminars 				
15.		ilable time	30				
16.	Forms of activities	teaching	16.1. 16.2. 16.3.	Lessons – theoretical less Practical lessons (labora auditory), seminars, tear Practice: hours	tory,	<u>10</u> 5	
17.	Other for	rms of activities	17.1. 17.2.	Project tasks: hours Individual tasks: hours			
18.	Requirements for signature		17.3.Studying at home: hours15In order to get a signature, the student should obtain minimum points in both theoretical and practical courses, and to present the seminar work.15If the student has not obtained the minimum points in the continual assessments, he/she will be obligated to pass them before the final exam				
19.		of assessment	1				
	19.1.	Tests: points			Continual asse written	ssment – one	
	19.2.	Seminar paper/	project, written and	oral presentation: points	seminar work Seminar: micr	resentation of the obiological articular clinical	

	19.3.		of microbiolog recommendation antimicrobial the infections in hore environment as community The assessmen is descriptive Final exam: pratical of cases; microbiological	on for appropriate herapy of ospital s well as in the nt of knowledge ctical (processing analysis) npleted exam is a 1		
20.	Grading	criteria (points/	(grade)		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points From 85 to 92 points		8 (eight) (C)
					9 (nine) (B)	
21.	Mathada	From 93 to 100 pointsof monitoring the quality of theAnonymous evaluation			by students on th	10 (ten) (A)
21.	teaching		ne quanty of the	Anonymous evaluation teaching staff and assoc		
	Literatu			touoning starr and assoc	lates participatin	<u>g in the teaching</u>
		Mandatory lit	erature			
		Number	Author	Title	Publisher	Year
	22.1.	1.	Brooks G, Karen C. Carroll KC, Butel J, Morse S, Meizner T.	Jawetz, Melnick & Adelberg's Medical Microbiology – 26 th Edition	Chicago: McGraw-Hill Education / Medical	2012
22.		2.	Greenwood D, Slack RCB, HHBarer Mr, Irving ML	Medical Microbiology: With STUDENTCONSULT online access (Greenwood,Medical Microbiology) 18 th Edition	Churchill Livingstone	2012
		3. Additional lite	Gary W. Procop, Deirdre L. Church, Geraldine S. Hall; William M. Janda; Elmer W. Koneman; Paul C. Schreckenberger;	Koneman's Color Atlas and Textbook of Diagnostic Microbiology 7th Edition	Jones & Bartlett Learning	2016
	22.2.					

Number	Author	Title	Publisher	year
1.	Department's Teachers	Authorized lectures from the Department of microbiology and parasitology		

ELECTIVE SUBJECTS

Atta	ichment 3	Integrated cycle of studies	s – Subject	program		
1.	Subject	ANATOMICAL FEATUR SYSTEM	ANATOMICAL FEATURES OF VERTEBROBASILAR SYSTEM			
2.	Code	MEDI 01				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss. Cyril and Methodius Ur	iversity in S	Skopje, Faculty of	Medicine,	
	institute, chair, department)	Department of Anatomy				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year II Semester IV (fourth)				
7	ECTS credits	1				
8.	Professor (when more professors, responsible professor is assigned)	Associate professor Ace Dodevski, PhD, MD				
9.	Language of the study Preconditions for	English Anatomy 3 exam passed.				
10.	attending the classes and taking the subject's exam	The student can attend the final oral exam if he/she prepared an integrative seminar in a written form and presented it with oral presentation and interactive discussion of the colleagues and the responsible professor.				
11.	Subject program goals (competences) and study results:	The student should acquire basic knowledge about the morphological and topographic features of the vertebrobasilar system and its branches, as well as the clinical significance of their anatomical variations.				
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Morphological chan and its branches Anatomical variation Clinical significance system 	ons of the ve	ertebrobasilar syst	em	
		 Practical course: Making dissection p system Morphometric anal vertebrobasilar system Comparative analyse the vertebrobasilar preparations, CT ar Practical teaching: Selected part of vertebrobasilar 	ysis of anato tem sis of the mo system and nd MRI ima	omical brain prepa orphometric chara its variations on a ges	arations with cteristics of	
13.	Interconnection between subjects	Related to all subjects in the		•		

14.	subject's	on of the study and methods in	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study				
15.	Total ava frame	ilable time	30				
16.	Forms of	teaching	16.1.	Lessons – theoretical less	ons, hours	5	
	activities	8	16.2.	Practical lessons (laborato	,	10	
				seminars, team work: hou	rs		
			16.3.	Practice: hours			
17	Other for	rms of activities	17.1.	Project tasks: hours			
17.			17.2.	Individual tasks: hours	1.7		
10	D 1		17.3.	Studying at home: hours	1 1.1	15	
18. 	Requiren signature Methods		practical class In order to tak paper in writte The grade for based on the s	der to get a signature, the student needs to attend the theoretical, cical classes and seminars and earn a minimum number of points. der to take the final exam, the student has to prepare a seminar r in written form and make a power point presentation. grade for the subject is formed according to the grade table, and d on the sum of the points from all activities, continuous tests the final exam.			
17.	19.1.	Tests: points				15 - 30	
	19.2.	Seminar paper/p	project, written a	roject, written and oral presentation:			
	10.0	points				• 1 • 10	
	19.3.	Final exam: poi				21 - 40	
20.	Grading	criteria (points/gi	rade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points	7	6(six)(E)	
				From 69 to 76 points From 77 to 84 points		(seven) (D) 8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
				From 93 to 100 points		$\frac{10 \text{ (ten) (D)}}{10 \text{ (ten) (A)}}$	
21.		of monitoring the	e quality of	Student anonymous evalu teachers and associates where the state of the		ect and the	
	Literatur	ing process œ		teachers and associates wi	no participate m	teaching	
		Mandatory litera	ture				
		Number	Author	Title	Publisher	Year	
		1.	George B, Bruneau M, Spetzler RF	Pathology and surgery around the vertebral artery	New York: Springer	2011	
22.	22.1.	2.	Berguer R	Function and surgery of the carotid and vertebral arteries	Philadelphia: Lippincott Williams & Wilkins	2013	
		3.	Langdon JD.	Gray`s anatomy	London: Elsevier, Churchill - Livingstone	2005	

		Additional literat	ture			
		Number	Author	Title	Publisher	year
		1.	Bradac GB	Cerebral angiography Normal anatomy and vascular pathology	New York: Springer	2014
2	22.2.	2.	Marinkovic S, Milisavljevic M, Antunovic V.	Brain and spinal cord arteries: Anatomical and clinical characteristics.	Beograd: Bit inzenjering	2001
		3.	Sachinder SH.	Extracranial carotid and vertebral artery disease.	New York: Springer	2018

	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	CLINICAL ANATOMY OF THE URINARY SYSTEM					
2.	Code	MEDI 02	MEDI 02				
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss. Cyril and Methodius University in Skopje, Faculty of					
	chair, department)	Medicine, Department of Anatomy					
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year Second Semester Fourth (IV (II)					
7	ECTS credits	1	•	<u>.</u>			
8.	Professor (when more professors, responsible	Associate Professor Biljana Trpkovska, PhD, MD					
9.	professor is assigned) Language of the study	English					
9.	Preconditions for	English Passed Anatomy 2					
10.	attending the classes and taking the subject's exam	The student can attend integrative seminar in presentation and intera responsible professor.	a written for	m and presented	d it with oral		
11.	Subject program goals (competences) and study results:	To provide knowledge about the morphological, and topographical characteristics and structure of the urinary system. To provide knowledge about anatomical and clinical aspects of the urinary system.					
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course: Morphological, topographic characteristics, structure, ar clinical knowledge of the kidneys. Morphological, topographic characteristics, structure, ar clinical knowledge of the urinary tract. Anatomical structures, internal macrostructure, and microstructure of the kidneys. 					

			 Ana supr Area 	 Anatomical and clinical knowledge of the ureter. Anatomical and clinical knowledge of the glandule suprarenal. Area of vascularization and innervation of the urinary system. 			
			 Practical course: Presentation of the morphological, topographical characteristics and structure of the urinary system. Seminars Selected part of the urinary system. 				
13.	Interconi subjects	nection between	Theoretical	lessons, practical lessons,	seminars		
14.	study and working methods in detail 15 hours of home study						
15.		ilable time frame	30 hours				
16.	Forms of	teaching	16.1.	Lessons – theoretical les	,	5	
	activities		16.2.	Practical lessons (laboratory,		10	
			16.3.	auditory), seminars, tean Practice: hours	nwork: hours		
	Oth on for	rms of activities	10.3.				
17.	Other for	rms of activities		Project tasks: hours			
1/.			17.2.	Individual tasks: hours		1.5	
18.	Requiren	nanta far	17.3.	Studying at home: hours in theoretical and practical		15	
10.	signature		Active part i	in meorencar and practical	lessons, semm	ai s	
19.		of assessment					
	19.1.	Tests: points					
	19.2.	Seminar paper/pro points Active participant	0	nd oral presentation:		25-35, 20-40	
	19.3.	Final exam: points				15-25	
20.	Grading	 criteria (points/grad		Up to 50 points		5 (five) (F)	
20.	Oraung	ernerna (points/grad	uc)	From 51 to 60 points		$\frac{6 (\text{six}) (\text{F})}{6 (\text{six}) (\text{E})}$	
				From 61 to 70 points		7 (seven) (D)	
				From 71 to 80 points		$\frac{8 \text{ (eight) (C)}}{8 \text{ (eight) (C)}}$	
				From 81 to 90 points		9 (nine) (B)	
				From 91 to 100 points		10 (ten) (A)	
21.	Methods	of monitoring the q	uality of	Student anonymous eval	uation of the su	bject and the	
	the teach	ing process	~ -	teachers and associates v	who participate	in teaching	
	Literatur	re 🗌					
22.		Mandatory literat	ure				
	22.1.	Number	Author	Title	Publisher	Year	
		Inuilider	Author	Title	rublisher	rear	

	1.	Drake RL, Vogl AW,	Gray`s Anatomy for Students	New York: Elsevier	2019
		Mitchell	Students		
	2.	AWM Halliday NL,Chung, HM.	Gross Anatomy	Pensilvania: Lippincott Williams &	2023
		11111.		Wilkins	
	Additional literatu	ire			
	Number	Author	Title	Publisher	year
22.2.	1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013
	2.	Paulsen F, Jens W.	Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019

Numb						
Atta	ichment 3		cle of studies — S		m	
1.	Subject		NATOMY OF	THE SPINE		
2.	Code	MEDI 03				
3.	Study program	General Medic	ine			
4.	Institution (unit, institute,	Ss. Cyril and Methodius University in Skopje, Faculty of				
	chair, department)	Medicine, Dep	artment of Anat	omy	-	
5.	Degree of education (first,	Integrated 6-ye	ear studies			
	second, third cycle)					
6.	Academic year/semester	Year	Second (II)	Semester	Fourth (IV)	
7	ECTS credits	1				
8.	Professor (when more	Prof. Niki Mat	veeva, PhD, MD)		
	professors, responsible					
	professor is assigned)					
9.	Language of the study	English				
	Preconditions for attending	Completed cou	irse and passed e	exam in Anatom	ny 1.	
10	the classes and taking the				e/she prepared an	
10.	subject's exam				sented it with oral	
		responsible pro		scussion of the c	colleagues and the	
11.	Subject program goals		er knowledge ab	outenatomical	variations and	
11.	(competences) and study		formations of th			
	results:	U U	their disorders;	· ·		
	results.					
		degenerative changes of the spine during the process of aging relevant for the clinical practice.				
12.	Subject content in details by	Ch I Anatomic	al variations and	l congenital mal	formations of the	
	chapters and units, with study	spine, clinical s				
	results for every chapter			s and spinal cur	vatures disorders	

				rphostructural and deg process of aging rele		
13.	Intercon subjects	nection between		all subjects in the stud		
14. Description of the subject's study and working methods in details			th • No • M sp cli im zy	al course: natomical variations a e spine ormal spinal curvature orphostructural and d ine during the process inical practice (degene tervertebral discs, ver gapophyseal jonts, dis inal stenosis).	es and their disor egenerative char s of aging relevat erative changes of tebral bodies and	ders ages of the nt for the of the 1
			• ca ex	esentation of the rich se presentations of pa aminations of the spin	tients who under ne	rwent MR
			Methods	<pre>work: chosen parts of of studying: interactiv ectures and integrative</pre>	ve theoretical lect	
15.	Total av	ailable time frame	30 classes			
16.	Forms of teaching activities		16.1. 16.2.	Lessons – theoretica Practical lessons (la auditory), seminars, hours	boratory,	5 Practical lectures- 10
			16.3.	Practice: hours		
	Other fo	rms of activities	17.1.	Project tasks: hours		
17.			17.2.	Individual tasks: ho	urs	
			17.3.	Studying at home: h	iours	15
18	Require	ments for signature	In order to get a signature, the student is obligated to attend all the lectures (theoretical and practical), and seminars for which the student earns certain minimum number of points.			
19	Methods	of assessment	I			
	19.1.	Tests: points			/	
	19.2.	Seminar paper/project, written and oral presentation: points				minmax. 25-45
	19.3.	Final exam: points			Oral exam scores	min-max 26- 55
20	Grading	criteria (points/grade)		Up to 59 points		5 (five) (F)

				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points	7	(seven) (D)
				From 77 to 84	8	(eight) (C)
				points		
				From 85 to 92	(9 (nine) (B)
				points		
				From 93 to 100		10 (ten) (A)
21.	Mathada	of monitoring the qual	ity of the	points	n of the study program	m of the
21.	teaching		ity of the		rse, an anonymous ev	
	Literature	;				
		Mandatory literature				
	22.1.	Number	Author	Title	Publisher	Year
		1.	Moore KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2023
22.		2.	Drake RL, Vogl AW, Mitchell AWM	Gray`s Anatomy for Students	New York: Elsevier	2019
		Additional literature				
		Number	Author	Title	Publisher	year
	22.2.	1.	Bogduk N.	Clinical Anatomy of the Lumbar Spine and Sacrum	Edinburgh-New York: Elsevier- Churchill Livingstone	2005

Numl	per:4						
Atta	Attachment 3 Integrated cycle of studies – Subject program						
1.	Subject	CLINICAL AN	CLINICAL ANATOMY OF THE DIGESTIVE SYSTEM				
2.	Code	MEDI 04	MEDI 04				
3.	Study program	General Medicin	General Medicine				
4.	Institution (unit, institute,	Ss. Cyril and Me	ethodius Univer	sity in Skopje, I	Faculty of		
	chair, department)	Medicine, Depa	rtment of Anato	omy	-		
5.	Degree of education (first, second, third cycle)	Integrated 6-yea	Integrated 6-year studies				
6.	Academic year/semester	Year Second (II) Semester Fourth (IV)					
7	ECTS credits	1	•	•	•		

8.	Professor (when more professors, responsible professor is assigned)	Assoc. Prof. Elizabeta Chadikovska, PhD, MD				
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam Anatomy 2. In order to take the final exam, the student has to prepare a seminar paper in written form and make a power point presentation.				
11.	Subject program goals (competences) and study results:	 Objectives of the subject program (competencies): Study of the macroscopic structure of the human body Study of the organs that are part of the digestive system Clinical significance of the digestive system Use of professional terminology 				
12.	Subject content in details by chapters and units, with study results for every chapter	 Content of the subject program: Theoretical course: Importance of digestive system Morphological characteristics of the organs of the digestive system Ratios of the organs of the digestive system Vascularization and innervation of organs from the digestive system The digestive system and clinical connection; Practical course: Presentation of an organ from the digestive system; Seminar work: for a selected part of the digestive system. 				
13.	Interconnection between subjects	Related to all subjects in the study	program			
14.	Description of the subject's study and working methods in details	Interactive teaching, lectures, pract assignments, independent assignment				
15.	Total available time frame	30 hours				
16.	Forms of teaching activities	16.1.Lessons – theoretic hours16.2.Practical lessons (auditory), seminar hours	laboratory, 10			
		16.3. Practice: hours				
17.	Other forms of activities	17.1. Project tasks: hours 17.2. Individual tasks: hours 17.2. Stacking at language language				
18	Requirements for signature	17.3.Studying at home: hours15In order to get a signature, the student needs to attend the theoretical, practical classes and seminars and earn a minimum number of points.15				
19	Methods of assessment					
	19.1. Tests: points		Min. 15- max. 25			
	19.2. Seminar paper/proj points	ect, written and oral presentation:	Min. 25- max. 35			

	19.3.	Final exam: points				Theory Practical part	10-20
20	Grading	criteria (points/grade	e) Up to 59 points			I	5 (five) (F)
				F	rom 60 to 68 points		6 (six) (E)
					rom 69 to 76 points		7 (seven) (D)
				F	rom 77 to 84 points		8 (eight) (C)
				F	rom 85 to 92 points		9 (nine) (B)
				Fre	om 93 to 100 points		10 (ten) (A)
21.		of monitoring the qu			t anonymous evaluat		· ·
		aching process Stude ous evaluation for the		and ass	ociates participating	in the teaching	
	subject, t	teachers and associat					
	Literatur	re					
		Mandatory literature					
	22.1.	Number	Author		Title	Publisher	Year
		1.	Drake RL, Vogl AW, Mitchell AWM		Gray`s Anatomy for Students	New York: Elsevier	2019
22.		2.	Halliday NL,Chung, HM.		Gross Anatomy	Pensilvania: Lippincott Williams & Wilkins	2023
		Additional literature					
		Number	Aı	uthor	Title	Publisher	year
	22.2.	1.	Moore	e KL.	Clinically oriented anatomy.	Baltimore: Lippincott Williams & Wilkins	2013
		2.	Paulse Jens V		Sobotta Atlas of Anatomy, Package, 16th ed.	Berlin: Urban & Fischer	2019

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Atta	ichment 3	Integrated cycle of studies – Subject program
1.	Subject	COMPLEMENTARY MEDICINE
2.	Code	MEDI 05
3.	Study program	General Medicine
4.	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,
	institute, chair,	Department of anesthesiology with reanimation
	department)	

5.	Degree of education	Integrated 6-year studies						
	(first, second, third							
6.	cycle) Academic year/semester	Year	Sixth (VI)	Semester	Eleventh (XI)			
7	ECTS credits	1	()		_()			
8.	Professor (when more professors, responsible professor is assigned)	Prof. Jasminka Nancheva PhI	D, MD					
9.	Language of the study	English						
10.	Preconditions for attending the classes and taking the subject's exam	Completed course in Anesther In order to take the exam, the practical classes and seminars	student nee		ne theoretical,			
11.	Subject program goals (competences) and study results:	 Introduces the student to the alternative treatment techniques of the allopathic techniques from Western medicine, which he studies with the agricultural ones during his studies. The student should become familiar with the basic principles of traditional (Chinese) theories of the mechanism of action of acupuncture, more precisely understanding the methodology of acupuncture as a traditional method in the symptoms and therapy of diseases. The student should gain knowledge of the basic practical knowledge in the acupuncture technique. The student should become familiar with the basic laws and principles of homeopathic treatment, the methodology of taking the homeopathic anamnesis as a supplement to the allopathic (western) anamnesis and prescribing therapy. The student should acquire knowledge about the use of acute homeopathic medicines in everyday medicine. The student should gain knowledge of the basic practical in taking the homeopathic interview. Using a repetorium 						
12.	Subject content in details by chapters and units, with study results for every chapter	(computer). Theoretical course: 1. Acupuncture • Modern (scientific) and traditional (Chinese) theories of the mechanism of action of acupuncture. • Meridians and acupuncture points • Relationship between acupuncture points and muscles • Electrotherapy, electropuncture, electroacupuncture • Acupuncture therapy by systems 2. Homeopathy • Laws and principles of homeopathic treatment • Three levels of the human being • The concept of vital force • Basic laws of homeopathic treatment • Dynamic interaction of diseases • Basics of homeopathic analysis • Prescribing medicines (acute homeopathic medicines)						

			Mastering clinical skills and practical application of acquired					
				theoretical knowledge of acupuncture and homeopathy.				
13.	Intercon subjects	nection between	Related to all s	subjects in the study program				
14.	subject's	ion of the study and methods in	Interactive teaching, seminars, practical trainings					
15.	Total ava frame	ailable time	30 hours					
16.	Forms of	fteaching	16.1.	Lessons – theoretical lesson	s, hours	5 hours		
	activities		16.2.	Practical lessons (laboratory seminars, team work: hours	, auditory),	10hours		
			16.3.	Practice: hours				
	Other fo	rms of activities	17.1.	Project tasks: hours				
17.			17.2.	Individual tasks: hours				
			17.3.	Studying at home: hours		15 hours		
18	Requires signature	nents for		a signature, the student needs es and seminars and earn a mi				
19		of assessment	pruetieur eiuss					
	19.1.	Tests: points				18 - 30		
	19.2.	-	oject, written an	d oral presentation: points		8 - 12		
	19.3.	Final exam: point	ts			28 - 40		
20	Grading	criteria (points/g	rade)	Up to 59 points	5 (five) (F)			
	C	u U	,	From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		7 (seven) (D)		
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
21		e •, • ,1	1.4	From 93 to 100 points	1.1 1 1	10 (ten) (A)		
21.	Methods of monitoring the quality of the teaching process			Continuous evaluation through the whole process of teaching (theoretical-interactive and practical). Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities.				
	Literatu	re						
22.		Mandatory literat	ure					
		Number	Author	Title	Year			
	22.1 .	1.	Kaptchuk T.	The Web That Has No Weaver: Understanding Chinese Medicine.	Chicago: Mc Graw- Hill	2000		

		2.	Deadman P, Baker K.	A Manual of Acupuncture	Los Angeles: Sung In Printing America Inc	1998
22.2 Additional literature						
		1.	Vitulkas G	The doctrine of homeopathy	Advita	2005
		2.	Vitulkas G	Homeopathy – medicine for the new millennium	Aditiva	2007
		1.	Dervisevic E	Acupuncture	Beograd: Naucna kniga	2001

Numb						
	chment 3	Integrated cycle of studies – Subject program				
1.	Subject	DISASTER MEDIC	INE			
2.	Code	MEDI 06				
3.	Study program	General Medicine				
4.	Institution (unit, institute,	Ss. Cyril and Method	ius Universit	y in Skopje, Facı	ulty of	
	chair, department)	Medicine, Departmen	t of anesthes	iology with reani	mation	
5.	Degree of education (first,	Integrated 6-year stud	lies			
	second, third cycle)					
6.	Academic year/semester	Year	Sixth	Semester	Eleventh	
			(VI)		(XI)	
7	ECTS credits	1				
8.	Professor (when more	Prof. Kuzmanovska H	Biljana, MD, 1	PhD		
	professors, responsible					
	professor is assigned)					
9.	Language of the study	English				
	Preconditions for attending	Passed exam in anest				
10.	the classes and taking the	In order to take the fin				
	subject's exam	theoretical, practical te			-	
11.	Subject program goals		with the conc	ept of medicine i	n disaster	
	(competences) and study	conditions.				
	results:			f the medical and	lparamedical	
		systems in ma				
		• Disaster assessment and mobilization of relief teams.				
		• Pre-hospital care of victims, triage and first aid.				
		Chemical, bio	ological and r	adiological deco	ntamination.	
		• Evacuation fr		ent site.		
		Transport to t				
				are for a large nu	mber of mass	
		victims accid	ents.			

12.	Subject content in details by	Theoretical course:				
	chapters and units, with	Organization of prehospital medical and paramedical				
	study results for every	systems care of victims of mass accidents.				
	chapter	• The role of medical teams in the first hour of the disaster,				
	chupter	the establishment of emergency medical posts.				
		 Initial Disaster Assessment and Triage: – 				
		- in the first minutes after the disaster				
		 within an hour of the disaster 				
		- in the period of 4-6 hours, first 24 hours				
		- in the period from the second to the seventh day after the disaster.				
		• Assessment of the injured, primary examination,				
		secondary examination, triage.				
		• Algorithm for the procedures during the primary				
		examination.				
		Trauma score, Glasgow coma score, pediatric trauma				
		score.				
		 Algorithm for triage of the injured requiring immediate 				
		treatment.				
		 Algorithm for triage by secondary examination, secondary 				
		priority of procedures.				
		 Algorithm for the triage of the injured with the possibility 				
		of a delayed procedure.				
		 Algorithm for dead or extremely critical with possibility 				
		of dying.				
		Specifics of prehospital care during chemical and biclosical measurements also				
		biological weapon attacks.				
		Biological and chemical decontamination.				
		• Management of mental detheorized patients.				
		• Specifics of pre-hospital care during nuclear disasters.				
		Radiological decontamination.				
		• Transport (types)				
		Practical lessons:				
		Practical exercises on phantom dolls - resuscitation				
		according to ABC principles.				
		• Immobilization of the spine.				
		Immobilization of limbs.				
		Primary hemostasis.				
		Placement of an intravenous line.Procedures for decontamination of victims and personal				
		protection.				
13.	Interconnection between	Related to all subjects in the study program				
13.	subjects	Related to an subjects in the study program				
14.	Description of the subject's	Interactive teaching (theoretical), demonstration, practical				
14.	study and working methods	performing and acquiring skills, discussion with the teachers of				
	in details	the teaching, seminar paper.				
15.	Total available time frame	30 hours				
16.	Forms of teaching activities	16.1.Lessons – theoretical lessons, hours5 hours				

			16.2.	Practical lessons (la auditory), seminars hours	•	10 hours	
			16.3.	Practice: hours			
15	Other for	ms of activities	17.1.	Project tasks: hours			
17.			17.2.	Individual tasks: ho			
			17.3.	Studying at home: I		15 hours	
18	Requiren	nents for signature		signature, the student g and seminars and w			
19	Methods	of assessment	praetical teaching	g and seminars and w	in minimum po		
	19.1.	Tests: points				21 - 35	
	19.2.	Seminar paper/proje	ct, written and oral	presentation:		2 - 4	
	19.3.	Final exam: points			Oral	24 - 40	
20	Grading	criteria (points/grade)	Up to 59 points		5 (five) (F)	
	_			From 60 to 68		6 (six) (E)	
				points			
				From 69 to 76		7 (seven) (D)	
				points From 77 to 84		8 (eight) (C)	
				points		o (eight) (C)	
				From 85 to 92		9 (nine) (B)	
				points		y (IIIIe) (D)	
				From 93 to 100		10 (ten) (A)	
				points			
21.	teaching	•	ality of the	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities.			
	Literatur	e					
		Mandatory literature					
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Ciottone GR.	Ciottone`s Disaster Medicine	New York: Mosby Elsevier	2006	
22.		2.	Hogan DE.	Disaster Medicine	Philadelphia: LWW	2002	
		Additional literature					
		Number	Author	Title	Publisher	year	
	22.2.	1.	Andonov V	Urgent medicine practical procedures	Laurens Coster	2001	
		2.	Teaching materia	als on English for stuc	lents prepared b	y the faculty	

Numb	ber:7 achment 3	Into guate d'any	ale of struction	Cubie et une que				
Atta 1.	Subject	INTENSIVE		- Subject progra	111			
1. 2.	Code	MEDI 07						
<u>2.</u> 3.	Study program		ino					
<i>3</i> . <i>4</i> .	Institution (unit,	General Medicine Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,						
4.	institute, chair,							
	department)	Department of anesthesiology with reanimation						
5.	Degree of education	Integrated 6-ve	ear studies					
	(first, second, third							
	cycle)							
6.	Academic	Year	Fifth (V)	Semester	Tenth (X)			
	year/semester		. ,					
7	ECTS credits	1	·		·			
8.	Professor (when	Prof. Andrijan	Kartalov, PhD	D, MD				
	more professors,	C C						
	responsible							
	professor is							
	assigned)							
9.	Language of the	English						
	study							
	Preconditions for			gy and reanimatio				
10.	attending the classes	To enter the exam, seminar work (writing text and presenting) is needed.						
	and taking the subject's exam							
11.	Subject program	Teaching goals						
11.	goals (competences)			usinted with the b	asics of intensive care,			
	and study results:				lls for their treatment			
	and study results.			nonary resuscitati				
					principles of care and			
					tients and with the skills			
		needed in	intensive care	e medicine				
12.	Subject content in	Theoretical a	A					
	details by chapters				of the intensive care unit,			
	and units, with		oring of the vit					
	study results for			s a result of hypox				
	every chapter	 Critical conditions caused by circulatory disorders Critical conditions with disorders of the body fluids homeostasis 						
				nd consciousness				
		 Critical conditions caused by digestive system disorders Critical conditions caused by trauma 						
		 Critical conditions caused by head injuries 						
		Critical conditions caused by chest/thorax injuriesCritical conditions caused by abdominal emergencies						
					arrest in pregnant women			
		 Critical conditions in cases of intoxications, burns, terminal 						
				electric shock				
				, central vein path	ways, ports			
				_				

13.	Interconnection between subjectsRelated to all subjects in the study program							
14.	Descript subject's	tion of the s study and s methods in	Interactive teaching, seminars, practical trainings					
15.	Total av frame	ailable time	30 hou	ırs				
16.	Forms o activities	f teaching S	16.1.		Lessons – theoretic hours	cal lessons,	5 hours	
			16.2.		Practical lessons (l auditory), seminars hours		10 hours	
			16.3.		Practice: hours			
	Other fo		17.1.		Project tasks: hours	5		
17.	activities	5	17.2.		Individual tasks: he	ours		
			17.3.		Studying at home:	hours	15 hours	
18	Require signatur	ments for e	To obt (12-20		ignature, active prese ts).	ence at theoretical c	ourse is obliged	
19	Methods	s of assessmen	t					
	19.1.	Tests: point	S			Written test Total 12-20 points Seminar works Total 24- 40 points Oral exam Total12-20 points		
	19.2.	Seminar pap presentation		ct, w	ritten and oral			
	19.3.	Final exam:	points					
						The final mark is formed by summarizing the points of certain activities.		
20	Grading				Up to 59 points		5 (five) (F)	
	(points/g	grade)			rom 60 to 68 points	6 (six) (E		
					rom 69 to 76 points		7 (seven) (D)	
					rom 77 to 84 points	8 (eight) (C		
					rom 85 to 92 points om 93 to 100 points	9 (nine) (B)		
21.	Methode	s of monitorin	g the	110	· ·	ation by the student	10 (ten) (A) s of the subject, the	
21.	5					ollaborators who pa	5	
	Literatu	re						
22.		Mandatory lit	terature					
-	22.1. Number		Auth	or	Title	Publisher	Year	

1.	Marino PL	The ICU Book	Philadelphia: LWW	2013			
2.	Hall JB, Schmidt GA.	Critical care	Chicago: Mc Graw Hill, Medical	2006			
3.	Andrew D. Bersten, and Neil Soni	Oh's Intensive Care Manual	New York: Elsevier	2013			
Additional literature							
Number	Author	Title	Publisher	Year			
1	Soljakova M. et al.	Anesthesiology and reanimation	Skopje: Biographica	2007			

Number:8

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Atta	achment 3	Integrated cycle of studies – Subject program							
1.	Subject	PAIN THERAPY							
2.	Code	MEDI 08							
3.	Study program	General medicine							
4.	Institution (unit,	Ss. Cyril and Methodius	University	in Skopje, Faculty of N	ledicine,				
	institute, chair,	Department of anesthesi	ology with	reanimation					
	department)								
5.	Degree of education	Integrated 6-year studies	5						
	(first, second, third								
	cycle)								
6.	Academic year/semester	Year	Fifth (V)	Semester	Tenth (X)				
7	ECTS credits	1							
8.	Professor (when more	Prof. Jasminka Nanchev	a PhD. MD.						
	professors, responsible								
	professor is assigned)								
9.	Language of the study	English							
	Preconditions for	Completed course in Anesthesiology and reanimation							
10.	attending the classes								
10.	and taking the subject's								
	exam								

11.	J	rogram goals nces) and study	Introducing the treatment of acute and chronic pain. Students will learn how to treat pain when it is the primary symptom. They will be introduced with the treatment of painful syndrome, pain evaluation skills, early steps of pain scale, special treatment of various types of pain and proper use of analgesics in treatment of pain within general medicine. Theoretical and practical course:					
	details by	chapters and h study results	Pain, clinical implications, types, segmental blocking pain, pain evaluation techniques, regime for pain treatment, strategy for treatment of acute pain, types of analgesics for system analgesia, back pain, the most common types of pain in medical practice, use of regional analgesia for the treatment of acute and chronic pain, treating chronic pain and techniques, blocks, method of application, palliative care and pain.					
13.	Interconn subjects	ection between	Related to all sul	bjects in the study pro	ogram			
14.	Description subject's working n details	study and nethods in	and consultation	istening, demonstration, practical performance and skills, discussion nd consultation with lecturers.				
15.	Total avai frame	ilable time	15 hours					
16.	Forms of teaching activities		16.1. 16.2.	Lessons – theoretic Practical lessons (la auditory), seminars	5 hours 10 hours			
			16.3.	hours Practice: hours				
17.	Other for	ms of activities	17.1. 17.2. 17.3.	Project tasks: hours Individual tasks: ho Studying at home:	15 hours			
18	Requirem signature			in signature, active p				
19		of assessment			10	20		
	19.1. 19.2.	Tests: points Seminar paper/ points	project, written an			0 - 20		
	19.3.	Final exam: poi	nts	2		- 60		
20	Grading	criteria (points/g	rade)	Up to 59 points		5 (five) (F)		
				From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		7 (seven) (D)		
				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points		10 (ten) (A)		

21.	Methods of monitoring the quality of the teaching process			Continuous evaluation through the whole process of teaching (theoretical-interactive and practical). Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities						
	Literatur	Mandatory literature								
		Number	-		Publisher	Year				
		1. Morgan E, Mikail M, Marej M		Clinical Anesthesiology	Chicago: McGraw Hill	2013				
22.	22.1.	Additional literature								
	22.11	Number	Author	Title	Publisher	Year				
		1.	Soljakova M et al.	Pain in Anesthesiology and reanimation	Skopje: Biographica	2007				
		2.	Teaching materia	als on English for stu	idents prepared by the	faculty				

Number		T (. 1 1 0					
Atta	chment 3	-	Integrated cycle of studies –					
		Subject	t program					
1.	Subject		ENZYMES – MARKERS FOR DIAGNOSIS AND PROGNOSIS OF DISEASES					
2.	Code	MEDI ()9					
3.	Study Program	General	General Medicine					
4.	Institution	Ss. Cyr	Ss. Cyril and Methodius University in Skopje,					
	(Unit, Institute, Chair, Department)	Faculty of Medicine, Department of Biochemistry						
		and Clin	nical Biocher	nistry				
5.	Degree of education	Integrat	ed 6 – year st	tudies				
	(first or second cycle)		-					
6.	Academic year/semester	Year	Second	Semester	Fourth (IV)			
			(II)					
7.	ECTS credits	1	1					
8.	Professors (when more professors,	Prof. Sc	Prof. Sonja Topuzovska, MD, PhD					
	responsible professor is assigned)							
9.	Language of the study	English						

10.	Preconditions for attendin	a the closer	26	Signature from Diochom	istry 1 and Biochemistry			
10.	and taking subject's exam		es	2.	istry I and Biochemistry			
	and taking subject s exam	L		2. Before taking the final ex	xam, the student should			
				submit a seminar paper i				
				prepare a PPT presentation.				
11.	Subject program goals (co and study results:	mpetences)	Aims of the course prog				
	and study results.			• Teaching/studying	of enzymes important			
				for medical diagno				
					d practical work on			
					nination of enzyme			
12.	Subject content in details	hy chanter	•6	activity Contents of the course	nrogram.			
12.	and units, with study resu			Contents of the course	program.			
	chapter		•	Theoretical course:				
				Principles of en	zymology			
				-	d their significance			
					termination of enzymes			
				2 1	rtant for diagnosis and			
				· ·	rdiovascular diseases			
					rtant for diagnosis and			
				 Enzymes in the 	patic diseases			
				Enzymes as tun	-			
				Linzymes as tan	nor markers			
				Practical course:				
				• Tests for detern	nination of enzymes and			
				isoenzymes, co	, continual,			
				discontinual, ele	ectrophoretic			
				Sominar nonon				
				Seminar paper: Selected chapters from e	nzvmology			
13.	Interconnection between s	ubiects		Related to all other subjects				
14.	Description of the subject ³	-	ł	Interactive teaching (theory), practical exercises,				
	working methods in detail	ls		seminar paper	···· • /			
15.	Total available time frame			30 hours				
16.	Forms of teaching	16.1		sons – theoretical lessons,	5 hours			
	activities	1(2	hours		Energian 51			
		10.2	16.2 Practical lessons (laboratory, auditory), seminars, team		Exercises 5 hours Seminars 5 hours			
				k: hours	Schimars 5 nours			
		16.3		tice: hours				
17.	Other forms of activities	17.1						
		17.2		vidual tasks: hours				
		17.3		lying at home: hours	15 hours			
18.	Requirements for	Conditio						
	signature			a signature, a student nee				
				es and seminars as well as	to obtain a minimum			
I		number o	pr poi	1115.				

					lessons 4 -10 p ssons 4- 10 poir				
19	Metho	d of as	ssessment	1					
	19.1	Tests	s: points			minmax. 12 - 20			
	19.2	Semi pape	nar r/project	Seminar pa	per points		min max. points 25 - 35		
	10.2	writt	entation: en and oral						
	19.3	Final point		Ora	ıl exam	points	minr s 15 -		
20.	Gradi				up to 59 points	point	, 15	5 (five) F	
	Grad	ing three			50 to 68 points			6 (six) E	
	(points	s/grade	e)	from 6	69 to 76 points			7 (seven) D	
					77 to 84 points			8 (eight) C	
					35 to 92 points		9 (nine) l		
- 21		1 6	• • • •		from 93 to 100 points			10 (ten) A	
21.			onitoring the e teaching	Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process					
	proces		· · · · · · · · · · · · · · · · · · ·		r	- T			
22.	Litera								
		Ma	ndatory litera	ture			1		
			Author	Title			Publisher	Year	
	1. Copeland RA 22.1.			Enzymes- A F Introduction to Structure, Mea and Data Anal Second edition	o chanism, lysis.	London: Willey	2020		
		2.	Hawcroft DM	М	Diagnostic en	zymology	London: Willey	1987	
		Ad	ditional literat	ture			-		
			Author		Title		Publisher	Year	
	22.2. 1.		Majkic N.		Clinical enzim	nology	AID Praktikum	1993	

 Number:10
 Integrated cycle of studies –

 Attachment 3
 Integrated cycle of studies –

 Subject program
 Integrated cycle of studies –

 1.
 Subject

 LIPOPROTEINS – RISK FACTORS FOR

 DEVELOPMENT OF ATHEROSCLEROSIS

 2.
 Code

3.	Study Program	General	Medicine					
4.	Institution	Ss. Cyril and Methodius University in Skopje,						
	(Unit, Institute, Chair, Department)	Faculty of Medicine, Department of Biochemistry						
		and Clinical Biochemistry						
5.	Degree of education	Integrated 6 – year studies						
	(first or second cycle)							
6.	Academic year/semester	Year Second Semester Fourth (IV (II)						
7.	ECTS credits	1						
8.	Professors (when more professors,	Prof. Da	inica Labudo	viкj, MD, Ph	D			
	responsible professor is assigned)							
9.	Language of the study	English						
10.	Preconditions for attending the classes and taking subject's exam	Signature from Biochemistry 1 and Biochemistry 2. Before taking the final exam, the student should submit a seminar paper in a written form and prepare a PPT presentation.						
11.	Subject program goals (competences) and study results:	 Teaching goals: To understand the role of lipoproteins, transport proteins and enzymes involved in the development of atherosclerosis, and the diseases that are a consequence of atherosclerosis: CAD, stroke, DVT; To become familiar with the electrophoretic methods for the separation of lipoproteins and to understand the principles of separation of HDL and LDL subclasses, apo(a) isoforms and the Western blott 						
12.	Subject content in details by chapters and units, with study results for every chapter	techniqueBrief contentTheoretical course:• Classification and metabolism of plasmalipoproteins;• Chylomicrons, VLDL, LDL and HDL; LDL andHDL subclasses CETP, LCAT;• Lipoprotein (a) and apoprotein(a) phenotypes;• Clinical significance of lipoproteins in thedevelopment of: coronary artery disease, CAD,cerebrovascular diseases, diabetes, deep veinthrombosis.Practical teaching:• 3-30% gradient non-denaturing PAGelectrophoresis for separation of HDL and LDLsubclasses• 3-15-gradient SDS-PAG electrophoresis for						

					separation of apop	orotein	(s) followed b	by Western
					blotting on nitrocellulose membrane, visualization			
				by immunotechnique				
			Seminar work: p	repara	tion of a sem	inar paper		
					related to lipoprot	eins ai	nd a public pr	resentation
					(PPT presentation)) of th	e same and a	discussion
					related to the semi	inar pa	pers	
							_	
13.		onnection between s			Related to all othe	-		
14.		ption of the subject'		ıd	Interactive teachin	ng (the	ory), practical	exercises,
15		ng methods in detail available time frame			seminar paper 30 hours			
15.			16.1	Tag			5 hours	
16.	activit	s of teaching	10.1	hou	sons – theoretical les	sons,	5 nours	
	activit	105	16.2		tical lessons (labora	atory	10 hours	
			10.2		tory), seminars, tea		TO HOUIS	
					k: hours			
			16.3		tice: hours			
17.	Other	forms of activities	17.1	Proj	ect tasks:hours			
			17.2	Indi	ndividual tasks: hours			
			17.3 Studying at home: hours			15 hours		
18.	Requi	rements for	Conditional criteria:					
	signat	ure	In order	In order to get a signature, a student needs to attend theoretical,				
			practical classes and seminars as well as to obtain a minimum					
			number of points.					
			Theoretical lessons 4 -10 points					
			Practica	l lesso	ons 4-10 points			
19	Metho	od of assessment						
17	19.1	Tests: points					minr	nax.
		•					12 -	20
	17.2	Seminar					min max	-
		paper/project	Seminar	paper	points		25 -	35
		(
		(presentation:						
		written and oral						
	19.3	Final exam:		Oral exam points			minr	mov
	19.5	points					15 –	
		points			zam p	onns	15-	- 23
			The grad	le for	the subject is obtain	ed acc	ording to the	grade table
					he sum of points ga			
					ssment of knowledg			,
20.	Gradi	ng criteria			to 59 points	-		5 (five) F
		-		m 60	to 68 points			6 (six) E
	(point	s/grade)	from	m 69 ⁻	to 76 points			7 (seven) D
			-		to 84 points			8 (eight) C
			from	m 85	to 92 points			9 (nine) B

				from 9	3 to 100 points		10 (ten) A
21.	quality process	of the	onitoring the e teaching		s' anonymous evaluat associates participatir		
22.	Literatu		ndatory literatu	re			
		1114	Author		Title	Publisher	Year
		1.	1. Dhalla NS, et all		Biochemistry of atherosclerosis	New York: Springer	2009
	22.1.						1007
		2.	David M. Hawc	roff	Diagnostic enzymol	ogy London: Willey	1987
		Ad	ditional literatur	e			
			Author		Title	Publisher	Year
	22.2.	1.	Dunbar BS, et a	.11	Protein Blotting. A practical approach	Oxford University Press	1999
		2.	Patel D.		Electrophoresis, Essential data	Chichester: Gel Wiley	1999

Number:11

	ichment 3	Integrated cycle of studies – Subject program						
1.	Subject	SKIN MANIFESTATIONS OF INTERNAL ORGAN						
		DISORDERS	DISORDERS					
2.	Code	MEDI 11						
3.	Study program	General Medicine						
4.	Institution (unit,	Ss Cyril and Methodius U	Jniversity, I	Medical				
	institute, chair, department)	Faculty, Department of D	Dermatoven	erology				
5.	Degree of education	Integrated 6-year study						
	(first, second, third cycle)							
6.	Academic year/semester	Year	Forth	Semester	Seventh (VII)			
			(IV)					
7	ECTS credits	1						
8.	Professor (when more	Prof. Suzana Nikolovska						
	professors, responsible	*teaching will be provide	d by the tea	achers from Depar	rtment of			
	professor is assigned)	Dermatovenerology						
9.	Language of the study	English						
	Preconditions for	Signature from the derma						
	attending the classes and	The student can attend the final oral exam if he/she prepared an						
10.	taking the subject's exam	integrative seminar in a v presentation and interactive responsible professor.						

11.	Subject program goals (competences) and study results:	 The student will acquire knowledge about the different types of skin changes that indicate the existence of systemic disease The student will have the skills to recognize and define the skin changes associated with a systemic disease The student will have the skills to create a logical sequence for the management of the associated systemic disease according to the type of skin changes The student will be aware of the importance of recognising the skin changes that are markers of systemic disease in the patient The student will be aware of the need for interdisciplinary cooperation with collegues of other specialites 				
12.	Subject content in details by chapters and units, with study results for every chapter	 Cutaneous manifestations of endocrine diseases Cutaneous manifestations of hematological diseases Cutaneous manifestations of nephrological diseases Cutaneous manifestations of cardiological and pulmonaryl diseases Cutaneous manifestations of rheumatological diseases Cutaneous markers of malignant solid tumors (paraneoplasia) 				
13.	Interconnection between subjects		knowledge on real patients. all subjects in the study program			
14.	Description of the subject's study and working methods in details	seminar pap	teaching during lectures, problem based l per	earning, writing		
15.	Total available time frame	30 classes				
16.	Forms of teaching activities	16.1. Lessons – theoretical lessons, hours 5 classes 16.2. Practical lessons 10 classes Seminars 16.3. Practice: hours				
17.	Other forms of activities					
18 19.	Requirements for signature Methods of assessment	80% presen	ice during theoretical and practical lessor	15		

	19.1.	Tests: points				/		
	19.2.	Seminar paper/r	project written	and oral pres	sentation.	40-60		
	17.2.	points	iojeet, wiitten	und ordi pre	Jentation.	10 00		
	19.3.	Final exam: poin	nts			11-40		
20.	Grading	criteria (points/gi	ade)	U	to 59 point	5	5 (five) (F)	
	8	d i d i mg) to 68 point		6 (six) (E)	
				From 69	to 76 point	5	7 (seven) (D)	
					7 to 84 point		8 (eight) (C)	
					5 to 92 point		9 (nine) (B)	
					to 100 point		10 (ten) (A)	
21.		of monitoring the	e quality of			valuation of the	course as well	
		ing process		as teachers	and assistar	its.		
	Literatur	·e						
		Mandatory literat	ture					
		Number	Author	Т	ïtle	Publisher	Year	
		1.	Wolf K,	Fitzpatrick	's Color	Chicago:	2009	
	22.1.		Johnson	Atlas and S		Mc Graw		
			RA	of Clinical		Hill		
				Dermatolo				
		2.	Griffiths C,	Rook's Te		New Jersey:	2016	
			Barker J,	Dermatolo	gу	John Wiley		
22.			BleikerT,			and Sons		
			Chalmers R, Creamer			Ltd		
			D					
		Additional literat	ure					
		Number	Author	Т	itle	Publisher	year	
		1.	Ancevski	Dermatove	nerology	Skopje:	2005	
	22.2.	1.	A, Gocev	Definatore	nereregy	Kultura	2005	
			G, Pavlova					
			Lj, Petrova					
			Ν					
Numb	chment 3		Integrated cy	ala of studi	os _ Subject	nrogram		
1.	Subject		BASIC IMMU		•	program		
2.	Code		MEDI 12	HOGENETI				
3.	Study pr	ogram	General Medi	cine				
4.	Institutio	•			niversity in	Skopje, Faculty	of Medicine,	
	institute,							
	departme		•					
5.		f education	Integrated 6-y	ear studies				
		ond, third						
	cycle)		17			<u> </u>		
6.	Academi	c year/semester	Year		Second	Semester	Fourth (IV)	
7	ECTS or	edits	1		(II)			
/	ECTS credits 1							

0	Ducforger: (Amintant D C	an Mani Kining DLD MD 111				
8.	Professor (when more		or Meri Kirijas, PhD, MD - responsible				
	professors, responsible	*Members of the Department of immunology and Department of Human Genetics are involved					
	professor is assigned)		are involved				
9.	Language of the study	English Passed exam Introduction to immunology.					
	Preconditions for						
10	attending the classes	In order to take th	e exam, the student should obtain minin	num points in			
10.	and taking the subject's	both theoretical a	nd practical courses, and to present a se	minar paper;			
	exam						
11.	Subject program goals	Students will be a	ble to:				
	(competences) and study		e the term immunogenetics				
	results:	 To describe the application of immunogenetics 					
			escribe the characteristics of HLA				
			alyze familial HLA genotype and haple	otyne			
			iderstand the role of immunogenetic tes				
			plantation of organs and tissues	ting in the			
			iderstand the role of immunogenetic tes	ting in the			
				ting in the			
			plantation of hematopoietic stem cells	ent f			
			nderstand the role of HLA in the develop	pment of			
10			mmune diseases				
12.	Subject content in	Theoretical cour					
	details by chapters and		r histocompatibility complex (MHC), or	rganization			
	units, with study results		HC class I and MHC class II				
	for every chapter		unological function of HLA molecules				
			gical and clinical significance of HLA				
		• Immu	inogenetics and transplantation of solid	organs			
		• Immu	inogenetics and transplantation of hema	topoietic			
		stem	cells	-			
		• HLA	and disease association				
		• HLA	antigens and antibodies				
			5				
		Practical courses					
			ods for HLA typing (PCR-SSP, PCR-S	SOP. NGS)			
			mination of anti-HLA antibodies				
13.	Interconnection between		jects in the study program				
10.	subjects	iterated to all suo	feets in the study program				
14.	Description of the	Seminars, interac	tive lessons				
14.	subject's study and	Seminars, interac					
	working methods in						
17	details	20.1					
15.	Total available time	30 hours					
	frame	161					
16.	Forms of teaching	16.1.	Lessons – theoretical lessons, hours	5			
	activities	16.2.Practical lessons (laboratory,10					
			auditory), seminars, team work:				
		hours					
		16.3. Practice: hours					
	Other forms of activities	17.1.	Project tasks: hours				
17.		17.2.	Individual tasks: hours				
		17.2.	Studying at home: hours	15			
		1/.J.	Studying at nonie. nours	13			

18.	Requirer signature	e	Studen semina		d to attend the theoreti	ical, practical clas	sses and		
19.		of assessment							
	19.1.	Tests: points					12-20		
	19.2.	Seminar paper points	/project, v	written and	oral presentation:		36-60		
	19.3.	Final exam: po	oints				12-20		
20	Grading	criteria (points/	grade)		Up to 59 points		5 (five) (F)		
					From 60 to 68 points		6 (six) (E)		
					From 69 to 76 points		7 (seven) (D)		
					From 77 to 84 points		8 (eight) (C)		
					From 85 to 92 points		9 (nine) (B)		
				I	From 93 to 100 points		10 (ten) (A)		
21.	Methods teaching	of monitoring tl process	ne quality	y of the	Student anonymous the teachers and coll teaching				
	Literature								
		Mandatory lite	erature						
		Number	A	uthor	Title	Publisher	Year		
	22.1.	1.	Li XC, AM	Jevnikar	Transplant Immunology	Hoboken: Wiley Blackwell	2016		
22.		2.	Klimov	VV	From basic to clinical immunology	New York: Springer	2019		
		Additional lite	rature						
		Number	A	uthor	Title	Publisher	year		
	22.2.	1.	Sompa	yrac L.	How the immune system works, 6 th edition	New York: Wiley Blackwell	2019		
		2.				Diackwell			
		3.							

Numl	ber:13					
Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	CLINICAL IMMUNOLOGY				
2.	Code	MEDI 13				
3.	Study program	General medicine				
4.	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,				
	institute, chair,	Department of Immunology				
	department)					
5.	Degree of education					
	(first, second, third	Integrated 6 - year studies				
	cycle)					

6.	Academic	Year	Second (II)	Semester	Fourth		
	year/semester				(IV)		
7	ECTS credits	1					
8.	Professor (when more professors, responsible professor is assigned)	Prof. Dejan	Trajkov, MD, PhD				
9.	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	In order to		troduction to immunology. student has to prepare a sem point presentation.	inar paper		
11.	Subject program goals (competences) and study results:	them	tudents with immune di	sorders and the diseases cau	sed by		
12.	Subject content in details by chapters and units, with study results for every chapter	Con All Sys Org Tra Imi Pre Dia	l course: ection and immunity ngenital and acquired de ergic diseases stemic immune diseases gan-specific inflammato unsplantation of red orga munology of tumors vention and therapy of i agnostic immunology	ry diseases Ins			
13	Interconnection between subjects		rading to specific areas	of immunology			
14.	Description of the subject's study and working methods in details	Interactive	lectures, practical exerci	ises, seminars			
15.	Total available time frame	30 hours					
16.	Forms of teaching activities	16.1.Lessons – theoretical lessons, hours5 hours16.2.Practical lessons (laboratory, auditory), seminars, team work: hours10 hours16.3.Practice: hours10					
17.	Other forms of activities	17.1.Project tasks: hours17.2.Individual tasks: hours17.3.Studying at home: hours15					
18.	Requirements for signature	Prerequisite	e criteria:		hours		

					student needs to attend the theor and earn a minimum number of		
19.	Methods	of assessmen	nt			points	
	19.1.	Tests: poin	ts		min max. 15-25 points		
	19.2.	Seminar pa presentatio		written and oral	min max. 25-35 points		
	19.3.	Final exam	a: points			max. points points	
accord the sur continu					The grade for the subject is for according to the grade table, ar the sum of the points from all continuous knowledge checks final exam.	nd based on activities,	
20	Grading	criteria (poin	nts/grade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points	7	(seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
				From 93 to 100 points		10 (ten) (A)	
21.	quality o	of monitorir <u>f the teachin</u> g			ent's evaluation of the subject, te slved in the educational activitie		
	Literatu	·e					
		Mandatory	literature				
		Number	Author	Title	Publisher	Year	
22.	22.1.	1.	Chapel H, Haeney M, Misbah S, Snowden N	Essentials of Clinical Immunology	New York: Wiley Blackwell	2006	
		2.	Rich RR. et al.	Clinical immunology, principles and practice, second edition	Maryland Heights: Mosby	2001	
		Additional l	iterature				
	22.2.	Number	Author	Title	Publisher	year	

1.	Sompayra c L.	How the immune system works, 6 th edition	New York: Wiley Blackwell	2019
2.	Ljaljevic J, et al.	Clinical imunology	Beograd: Sezam Medico	2002

Atta	ber:14 achment 3	Integrated cy	ycle of studies – Sul	oject program					
1.	Subject	THE SCIEN	TIFIC WORK - TO	O WRITE AND PU	BLISH				
2.	Code	MEDI 14							
3.	Study program	General medi	General medicine						
4.	Institution (unit,	Ss. Cyril and	Methodius Universit	ty in Skopje, Faculty	of Medicine,				
	institute, chair,	Department of Immunology							
	department)	-	1 05						
5.	Degree of education								
	(first, second, third	Integrated 6-year studies							
	cycle)		1		1				
6.	Academic	Year	Third (III)	Semester	Fifth (V)				
	year/semester								
7	ECTS credits	1							
8.	Professor (when more								
	professors,	Prof. Dejan Trajkov, MD, PhD							
	responsible professor								
	is assigned)								
9.	Language of the	English							
	study				1				
	Preconditions for	U	5	Basics in scientific w					
10.	attending the classes	In order to take the final exam, the student has to prepare a seminar paper in written form and make a power point presentation.							
	and taking the subject's exam	paper in write	ten form and make a	power point present	ation.				
11.	Subject program	Teaching goa	1						
11.	goals (competences)			eientific way of think	ina				
	and study results:		now what scientific t		ing				
	and study results.		se scientific informat						
			ake a classification of						
			ibmit a scientific pap						
			resent a scientific pap						
12.	Subject content in	Brief content	P··I	L					
	details by chapters	Theoretical	course:						
	and units, with study		ching literature data						
	results for every		puter analysis of hig	hly similar papers					
	chapter	• Meas	suring scientific cont	ribution with the Pul	olish or perish				
		prog			*				
			aration of original pa	nper					
			aration of a review p						
		Prepa	aring a case report						

			PresentPresent	 Presentation of a review paper 				
13.	Interconn between s		Related to all su	bjects in the study prog	ram			
14.	Descripti subject's		Interactive lectu	ares, practical exercises,	seminars			
15.	Total ava frame	ilable time	30 hours					
16.	Forms of	teaching	16.1.	Lessons – theoretical	lessons, hours	5 hours		
	activities		16.2. 16.3.	Practical lessons (labo seminars, team work: Practice: hours		10 hours		
	Other for	-ms of	10.3.	Project tasks: hours				
17.	activities	1115 01	17.1.	Individual tasks: hours	g			
			17.2.	Studying at home: hou		15 hours		
18	Requiren	nents for		signature, the student n				
	signature			s and seminars and earn				
19		of assessment			1	points		
	19.1.	Tests: point	S			min max.		
	19.2.	Consinon nor		r/project, written and oral presentation:		15-25 points min max.		
	19.2.	points	per/project, writter	roject, written and orar presentation.		25-35 points		
	19.3.	Final exam:	points			min max.		
					Theoretical course 1 Practical course 10	0-20 points 0-20 points		
					The grade for the su formed according to table, and based on t the points from all a continuous knowled and the final exam.	the grade he sum of ctivities,		
20	Grading	criteria (poin	ts/grade)	Up to 59 points		5 (five) (F)		
	0			From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		$\frac{V(\text{seven})(D)}{O(\frac{1}{2}+1)(D)}$		
				From 77 to 84 points		$\frac{8 \text{ (eight) (C)}}{0 \text{ (mina) (D)}}$		
				From 85 to 92 points From 93 to 100 points		9 (nine) (B) 10 (ten) (A)		
21.		of monitoring ing process	g the quality of	Anonymous student's teachers and collabora activities				
22.	Literatur	·e						

	Mandatory l	iterature						
	Number	Author	Title	Publisher	Year			
22.1.	1.	Matko Marusic	Introduction to scientific work in medicine	Zagreb: Medicinska naklada	2019			
	Additional literature							
	Number	Author	Title	Publisher	year			
22.2.	1.	Spiroski M.	The scientific paper - to write and publish	Skopje: Institute for immunobiology and human genetics,	2002			

Numb							
	chment 3			dies – Subject p	rogram		
1.	Subject		AL NUTRITI	ON			
2.	Code	MEDI 15					
3.	Study program	General M	ledicine				
4.	Institution (unit,	Ss Cyril a	nd Methodius	University in Sk	opje, Faculty of Medicine,		
	institute, chair,	Department	nt of Internal	Medicine			
	department)						
5.	Degree of education	Integrated	6-year studie	S			
	(first, second, third						
	cycle)						
6.	Academic	Year	Fourth	Semester	Seventh (VII)		
	year/semester		(IV)				
7	ECTS credits	1					
8.	Professor (when	Associate.	Prof. Kalina	Grivcheva Starde	elova, MD, PhD		
	more professors,						
	responsible professor						
	is assigned)						
9.	Language of the	English					
	study				_		
	Preconditions for			ing the classes: I			
10.	attending the classes				t is required to attend the		
100	and taking the	practical a	ind lecture cla	sses and to obtai	n a minimum score.		
	subject's exam						
11.	Subject program			als is to increase			
	goals (competences)			oution of ultrasou			
	and study results:	the general clinical picture, and to introduce the					
		student to its enormous potential					
			At the end, students will have basic knowledge of ultrasound findings in				
			U		ominal organs (liver, gallbladder,		
				een, kidneys and	l large vessels).		
12.	Subject content in	Theoretica					
	details by chapters	1. In	dications for 1	Parenteral Nutrit	ion		

	and units, results for chapter	, with study r every	3. Nu	lications for Ente tritional screenin trition in ICU				
			5. Nu	 Nutrition in IBD Nutrition in Liver Disease and acute Pancreating 				
			Practical lectures: Nutrition screening and calculations for caloric needs in different conditions and diseases					
13	Interconn between s		patients wh practice of	no are under the ri	isk ant theirs trea ding general pra	ent of the patients. Recognize atment essential in the daily actitioners, internal medicine		
14.	v	on of the study and nethods in	Theorethic in the daily	al (interractive) to work of the Dep	eaching during the artment of Clin	he lectures and participation ical Nutrition in Clinic for mination of the patients		
15.	Total avai	ilable time	30 hours					
16.	Forms of activities	teaching	16.1.	Lessons – theor hours	etical lessons,	5		
			16.2.	Practical lesson auditory), semin work: hours		5		
			16.3.					
17	Other for	ms of	17.1.	Project tasks: hours				
17.	activities		17.2. 17.3.	Individual tasks Studying at hom		15		
18	Requirem signature	ients for	In order to required to minimum s Active part	obtain a signature attend the practic score.	e and to enter the cal and lecture c	e final exam, a student is lasses and to obtain a min – max		
			Theoretical Practical c			20-24 20-24		
19	Methods o	of assessment						
	19.1.	Tests: point	S					
	19.2. Seminar paper/project, w presentation: points							
	19.3.	Final exam:	points		20-52			
20	Grading	criteria (poin	ts/grade)	Up to 59 points		5 (five) (F)		
				From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points	7 (seven) (D)			

				From 77 to		P(a;a,b,t)(C)
				84 points		8 (eight) (C)
				A		
			From 85 to		9 (nine) (B)	
				92 points		
				From 93 to		10 (ten) (A)
				100 points		
21.	Methods	of monitoring	the	Student anonyr	nous evaluation	of the subject, the teacher
	quality of	f the teaching	process	and collaborate	ors participating	in the teaching
	Literatur	·e				
		Mandatory l	iterature			
		Number	Author	Title	Publisher	Year
		1.	Group of		ESPEN	
	22.1.		authors	Blue book -	Course	2023
				ESPEN	Book, 2nd	
				Course Book,	Edition	
22.				2nd Edition		
22.		2.				
		Additional li	terature	·	-	·
		Number	Author	Title	Publisher	year
	22.2.	1.	Teaching n	naterials on Engl	ish for students	prepared by the faculty
		2.	Mazur	Lutz`s	Philadelphia:	2108
			EE, Litz	Nutrition and	FA Davis	
			NA	Diet Therapy	Company	

Numb	per:16						
Atta	chment 3	Integrated cycle of studies – Subject program					
1.	Subject	ELECTROCARDIOGRAPHY					
2.	Code	MEDI 16					
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss. Cyril and Methodius	University	in Skopje, Faculty	of		
	chair, department)	Medicine, Department o	f Internal N	Iedicine			
5.	Degree of education (first,	Integrated 6-year study					
	second, third cycle)				-		
6.	Academic year/semester	Year	Fourth	Semester	Eighth		
			(IV)		(VIII)		
7	ECTS credits	1					
8.	Professor (when more	Prof. Lidija Poposka, M	D, PhD				
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for attending	To pass Clinical examination exam.					
10.	the classes and taking the	In order to enter the final	l exam, the	student is required	to attend		
	subject's exam	the theoretical and practi	ical course.				

11.	Subject program goals	The major aim of the course (competences):					
	(competences) and study	• To learn how to make a quality electrocardiogram					
	results:		rn how to recognize a normal electroca				
			ognize essential disorders in conduction	÷			
		impulses					
		• To recognize atrial or ventricular arrhythmia					
		To recognize myocardial ischemia/ infarction					
			cognize electrocardiographic indexes of				
			c disorders				
		To rec	ognize rhythm on electro-stimulator				
			cognize conditions that require urgent tr	reatment			
12.	Subject content in details by	Theorethical	course:				
	chapters and units, with	• Electr	ical system of conducting and cardiac e	lectro			
	study results for every	physic					
	chapter	Basic	principles of electrocardiography and				
		electro	ocardiogram (ECG paper, measuring, h	eart			
			ency, electrical axis, source of mistakes	during the			
			g of ECG)				
			al electrocardiogram, access to interpret	ting			
			al sinus rhythm and sinus rhythms				
			lers in conducting impulses				
		•	m disorders				
		- Atr					
			ictional				
			ntricular				
		-	ardial ischemia and infarction				
		• Atrial	and ventricular loading				
		D					
		Practical cour	l interpreting of an electrocardiogram				
13	Interconnection between		graphy is a skill that is necessary from the	ha laval of a			
15	subjects	-	ioner to the level of a subspecialist inter				
	subjects		st, cardiologist.	iiiist,			
14.	Description of the subject's		interractive) teaching during the lecture	es and			
	study and working methods		ctical teaching)	5 und			
	in details	energies (pro-	()				
15.	Total available time frame	30 hours					
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons -	10			
	C		interactive, hours				
		16.2.	Practical lessons, team work: hours	5			
		16.3.	Practice: hours				
	Other forms of activities	17.1. Project tasks: hours					
17.		17.2. Individual tasks: hours					
		17.2.Individual dass. hours17.3.Studying at home: hours15					
18.	Requirements for signature	-	ain a signature the student is required to	o attend the			
			ecture classes and to obtain a minimum				
19	Methods of assessment						

	19.1.	Tasta: pointa				12-20	
	19.1.	Tests: points		points			
	19.2.	Activity		18-30			
	17.2.	<i>T</i> cervity		points			
	19.3.	Final exam: points			30-50		
		I				points	
					The grade for the		
					prmed according		
					ating table, based		
					um of the points		
					he activities, and		
					continuous check		
20	Grading	criteria (points/grad	e)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points	7	6(six)(E)	
				From 69 to 76 points		(seven)(D)	
				From 77 to 84 points From 85 to 92 points		$\frac{(\text{eight})(C)}{(\text{ning})(B)}$	
				From 93 to 100	9 (nine) (B 10 (ten) (A		
				points			
21.	Methods	of monitoring the qu	ality of the	1	valuation of the subject, the		
	teaching		unity of the	teacher and collaborators participating in the			
	8			teaching process	1 1 0		
	Literatur	·e		•			
		Mandatory literature					
		Number	Author	Title	Publisher	Year	
		1.	Loscalzo J. et al.	Harrison's Principles of Internal Medicine	Chicago: McGraw Hill	2022	
	22.1.		et al.	21th edition	McOraw Hill		
		2.	Goldman L,	Goldman-Cecil	New	2023	
22.			Ausiello D.	Medicine, 27 th edition	York:Elsivier		
		Additional literature					
		Number	Author	Title	Publisher	year	
	22.2.	1.	Georgievska	Electrocardiography	(COIBSS. mk	2008	
			Ismail Lj, Bonoska I		-		
			Poposka L, Trajkov I,		ID71834122):		
1			Gjorgov N.				

Numl	per:17	
Atta	achment 3	Integrated cycle of studies – Subject program
1.	Subject	ADOLESCENT RHEUMATOLOGY
2.	Code	MEDI 17
3.	Study program	General Medicine

4.		n (unit, institute,	Ss. Cyril and Methodius University in Skopje, Faculty of					
-	chair, dep		Medicine, Department of Internal Medicine					
5.		education (first, hird cycle)	Integrated 6-year studies					
6.		year/semester	Year Fourth Semester Eighth					
		e		(]	IV)		(VIII)	
7	ECTS cre	dits	1		,			
8.		(when more	Prof. Ljubi	inka Damjaı	novska I	Krstikj, MD, PhI)	
		s, responsible						
		is assigned)						
9.		e of the study	English					
		tions for attending		inical exam				
10.		s and taking the					required to attend	
	subject's			ical and pra				
11.		rogram goals			edge abo	out rheumatolog	ic condition in	
	(competer results:	nces) and study	young peop	ple				
12.	Subject co	ontent in details	Subject con	ntent:				
	by chapte	rs and units, with	Theoretic	al course:				
	study resi	ults for every	• Ju	venile idiop	athic art	hritis		
	chapter			onnective tis				
	_		• Au	utoinflamma	atory dis	orders		
			Practical of					
					linical	kills and practic	al application of the	
				quired theor			al application of the	
13.	Interconn	ection between				tudy program		
15.	subjects	iccuon between	Related to	an subjects	III the st	ludy program		
14.		on of the subject's	Interactive	teaching le	ectures	practical laborat	ory lessons, project	
		working methods				gnments, home		
	in details		ussignmen	us, maepene		Similarits, nome	ouuj	
15.		ilable time frame	30 hours					
16.	Forms of	teaching activities	16.1.	Lessons –	theoreti	cal lessons,	5	
				hours				
			16.2.			laboratory,	10	
					seminar	rs, team work:		
			162	hours	1			
		· · · ·	16.3.	Practice: 1				
17	Other for	ms of activities	17.1.	Project tas				
17.			17.2.Individual tasks: hours					
			17.3.Studying at home: hours15					
18	Requirem	ients for signature	In order to obtain a signature the student is required to attend the practical and lecture classes and to obtain a minimum score.					
		- f						
19	Methods	of assessment						
19	Methods 19.1.	Tests: points					15 - 30	

	19.3.	Final exam: points			20 - 40	
20	Grading	criteria (points/grad	le)	Up to 59 points		5 (five) (F)
				From 60 to 68		6 (six) (E)
				points		
				From 69 to 76		7 (seven) (D)
				points		
				From 77 to 84		8 (eight) (C)
				points From 85 to 92		0 (min c) (D)
				points		9 (nine) (B)
				From 93 to 100		10 (ten) (A)
				points		
21.	Methods	of monitoring the q	uality of		I	
		ning process	-			
	Literatu	re				
	Mandatory literature					
		Number	Author	Title	Publisher	Year
		1.	Sawhney	Pediatric	New York:	2017
			S,	rheumatology: A	Springer Link	
	22.1.		Aggarwal	Clinical		
			А.	Viewpoint		
22.		2.	Petty et	Textbook of	New York:	2020
22.			al.	pediatric	Springer	
				rheumatology, 8 th .		
		Additional literature	e	cu		
		Number	Author	Title	Publisher	Year
	22.2.	1.	Loscalzo	Harrison`s	Chicago:	2022
			J. et al.	Principles of	McGraw Hill	
				Internal Medicine 21th edition		

	ber:18	Into guato da	uala of studios of		_
All	achment 3	0	ycle of studies – S		1
1.	Subject	ABDOMINA	AL ULTRASOUN	ID	
2.	Code	MEDI 18			
3.	Study program	General medi	cine		
4.	Institution (unit, institute,	Ss Cyril and	Methodius Univers	sity in Skopje, Fa	aculty of
	chair, department)	Medicine, De	partment of Interr	al Medicine	
5.	Degree of education (first,	Integrated 6-	year studies		
	second, third cycle)				
6.	Academic year/semester	Year	Fourth	Semester	Seventh
			(IV)		(VII)
7	ECTS credits	1	• ~ /		· · · /

8.	Duofosson (when more					
0.	Professor (when more	Assistant Prof. Beti Todorovska, MD, PhD				
	professors, responsible	Assistant Prof. Bell Todorovska, MD, PhD				
0	professor is assigned)	English				
9.	Language of the study	English				
	Preconditions for attending	To pass Clinical examination exam.				
10.	the classes and taking the		enter the final exam, the student is require			
10.	subject's exam	the theoretic	cal and practical course and to obtain a n	ninimum		
		score.				
11.	Subject program goals		program goals is to increase the student	's		
	(competences) and study		of the contribution of ultrasound within			
	results:	the general	clinical picture, and to introduce the			
		student to it	s enormous potential			
		At the end,	students will have basic knowledge of u	ltrasound		
			same pathological conditions of the abdo			
		•	ladder, bile ducts, pancreas, spleen, kidr	U U		
		vessels).		, ,		
12.	Subject content in details by	Theoretica	l course:			
14.	chapters and units, with study		ications for ultrasound examination.			
	results for every chapter		ic Physical and Technical Principles (U	Itrasound		
	results for every enupter		hniques, Scanning Protocol, Sonograph			
			bdominal ultrasound	ie ropograpny)		
			mination of the hepatobiliary system, p	ancreas		
			een, kidneys and large vessels	allereas,		
			nical importance of abdominal ultrasoun	d in daily		
		rou		a in dairy		
		rou	tine			
		Practical c				
				- 1		
			forming ultrasound examination of of th			
			tem, pancreas, spleen, kidneys and large protection of ultrasound findings.	e vessels.		
10	T (1 (
13	Interconnection between	Related to a	ll subjects in the study program			
14	subjects		1/*····································	1		
14.	Description of the subject's		l (interractive) teaching during the lectu			
	study and working methods	.	n in the daily work of the Department of			
	in details		Gastroenterohepatology and ultrasound	examination of		
15	Total available time from a	the patients 30 hours				
15.	Total available time frame		T (1 (* 11			
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons,	5		
		160	hours	10		
		16.2.	Practical lessons (laboratory,	10		
			auditory), seminars, team work:			
		16.2	hours			
		16.3.	Practice: hours			
	Other forms of activities	17.1.	Project tasks: hours			
17.		17.2.	Individual tasks: hours			
		17.3.	Studying at home: hours	15		
18	Requirements for signature	In order to o	bbtain a signature the student is required	to attend the		
	1		d lecture classes and to obtain a minimu			
			course 20-24 points	/		
1			1			

			Practical cou	rse 20-24 points			
19	Methods	of assessment		*			
	19.1.	Tests: points					
	19.2.	Seminar paper/proje	ct, written and o	oral presentation:			
	19.3.	points		20 52			
	1						
20	Grading	criteria (points/grade))	Up to 59 points		5 (five) (F)	
				From 60 to 68		6 (six) (E)	
				points			
				From 69 to 76		7 (seven) (D)	
				points			
				From 77 to 84		8 (eight) (C)	
				points		0 (:) (D)	
				From 85 to 92		9 (nine) (B)	
				points From 93 to 100		10 (tor) (A)	
				points		10 (ten) (A)	
21.	Methods	of monitoring the gue	Student anonymous	evaluation of the	subject the		
21.	Methods of monitoring the quality of the teaching process			teacher and collabor		.	
	teaching	process			teaching		
	Literatu	e		6			
		Mandatory literature					
		Number	Author	Title	Publisher	Year	
		1.	Schmidt G	Ultrasound	Thieme	2007	
		2.		Abdominal	Churchill		
	22.1.		Bates JA	Ultrasound - How, Why and When	Livingstone	2004	
22.		3.	Dietrich CF, Serra C, Jedrzejczyk M	Ultrasound of the liver, EFSUMB Course Book, 2nd Edition	EFSUMB	2018	
		Additional literature			•		
		Number	Author	Title	Publisher	Year	
	22.2.	1.	Loscalzo J. et al.	Harrison's Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022	

Numl	ber:19	
Atta	achment 3	Integrated cycle of studies – Subject program
1.	Subject	CARDIAC EMERGENCIES
2.	Code	MEDI 19
3.	Study program	General Medicine

5. 6. 7	department) Degree of education (first, second, third cycle) Academic year/semester ECTS credits	Integrated 6-year studi Year	es				
6. 7	Academic year/semester	Year					
7			Fourth (IV)	Semester	Eighth (VIII)		
	EC 15 credits	1			(, 111)		
	Professor (when more professors, responsible professor is assigned)	Prof. Marija Vavlukis	MD, PhD				
	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam of Clinical examination. In order to obtain a signature and to enter the final exam, a student is required to attend the practical and lecture classes and to obtain a minimum score.					
	Subject program goals (competences) and study results:	To gain knowledge of principles of their reco knowledge of further t	gnition, diagnosis,				
	Subject content in details by chapters and units, with study results for every chapter	 Aortic dissecti Pericardial effi Ventricular tac ventricular fibi Cardio-pulmon Supraventricular rate Hypertensive u 	on usion and tamponad chycardia, polymorp rillation nary resuscitation lar tachycardia and e urgency and hyperte omboembolism and	dema and cardiogeni le, electromechanical phic ventricular tachy atrial fibrillation with ensive emergency l acute right ventricul	dissociation cardia, n fast		
		Practical teaching will for each of the patholo participation. Seminar work: Each student will proce use of literature data, a	gies covered in the ess a specific clinica	theoretical part, with al case, with critical a	interactive		

13	Interconn		Related to all	subjects in the study program	1					
14.		v v	Theorethical (practical tea	(interractive) teaching during ching)	the lectures and exercise	s				
15.	Total ava time fran		30 hours	hours						
16.	Forms of		16.1.	Lessons – theoretical lesson	s-interactive,	5				
	activities		16.2.	hours Practical lessons, team work	x: hours	10				
			16.3.	Practice: hours						
	Other for	ms of	17.1.	Project tasks: hours						
17.	activities		17.2.	Individual tasks: hours						
			17.3.	Studying at home: hours		15				
18	Requiren			ptain a signature the student is		actical				
	signature		and lecture cl	lasses and to obtain a minimu	m score.					
19	Methods	of assessme	ent							
17	19.1.	-	and participatio	n	18-24 points theory					
		5	1 1	18-24 points practical le	8-24 points practical lessons					
	19.2.	Seminar J	paper/project,		6-22 points					
	19.3.	Final exa	m: points		18-30 points					
					The grade for the course formed according to the table, based on the sum points from all the activ the continuous checks	e rating of the				
20	Grading	criteria (po	ints/grade)	Up to 59 points	5	(five) (F)				
	_	_		From 60 to 68 points						
				From 69 to 76 points						
				From 77 to 84 points	8 (eight) (C)					
				From 85 to 92 points		$\frac{\text{(nine)}(B)}{(tar)(A)}$				
21.	Mathada	of monitor	ing the	From 93 to 100 points Student anonymous evaluat		(ten)(A)				
21.		f the teaching		collaborators participating i						
	Literatur		81	F						
		Mandator	y literature							
		Number	Author	Title	Publisher	Year				
22.	22.1.	1.	Marco Tubaro M (ed.) et al.	The ESC Textbook of Intensive and Acute Cardiovascular Care (3 edn)	Oxford Academic	2021				
		Additional	literature							
22.2. Addition			Author	Title	Publisher	year				

1.	Loscalzo J. et al.	Harrison`s Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022
2.	Teaching mat	terials on English for students	s prepared by the faculty	

	ber:20 achment 3	Integrated cycle of studies – Subject program					
1.	Subject	INTERVEN	TIONAL CAR	DIOLOGY			
2.	Code	MEDI 20					
3.	Study program	General medicine					
4.	Institution (unit, institute,	Ss. Cyril and Methodius University in Skopje, Faculty of					
	chair, department)	Medicine, Department of Internal Medicine					
5.	Degree of education (first,	Integrated 6-y	ear studies				
	second, third cycle)						
6.	Academic year/semester	Year	IV	Semester	VIII		
7	ECTS credits	1					
8.	Professor (when more	Prof. Sashko	Kedev MD, Phl	D			
	professors, responsible						
	professor is assigned)						
9. Language of the study English							
	Preconditions for attending		cal examination				
	the classes and taking the	In order to ge	t to the final ev	aluation, it's necess	ary for the		
	subject's exam	eoretical and practi-	cal lessons and				
		gain minimal points from both.					
10.		To get to the	final exam the s	tudent must do a Po	owerPoint		
10.		presentation of	on a designated	topic.			
		Activity and	participation				
			urse 18-24 poi	nte			
			rse 18-24 points				
11.	Subject program goals			ical knowledge in I	nterventional		
11.	(competences) and study			into all minimally in			
	results:			diagnose and treat of			
	results.			lisease, structural he			
				nts will be provided			
				vledge, and skills ne			
				logy and will find o			
		perspectives.	entional cardio	logy and will find o			
12.	Subject content in details by		course and prac	tian anno			
12.		I neoretical (dotions of inter	ventional cardiovas	ular medicine		
	chapters and units, with			for cardiovascular i			
	study results for every						
	chapter		nostic cardiovas	scular modalities and	a their		
	1						
		Percutaneous coronary interventions, materials and					

14. 15. 16. 17.	study and in details Total ava Forms of	on of the subject's l working methods ilable time frame teaching activities		e studies, demonstration, ns, and consultations wit Lessons – theoretica Practical lessons (la auditory), seminars, hours Practice: hours Project tasks: hours Individual tasks: hou Studying at home: h	h responsible teach Il lessons, hours boratory, team work:	
18	Requiren	nents for signature	In order to practical a Theoretica	o obtain a signature the s and lecture classes and to al course 8-24 points course 8-24 points	tudent is required t	to attend the
		of assessment				
19	Methods 19.1. 19.2.	Tests: points Seminar paper/proje	ct, written ar	nd oral presentation:	6	-22 points
19	19.1.	-	ct, written ar	nd oral presentation:		8-30 points e exam is g to the nd on the of points ctivities,

			Fi	rom 93 to 100 points		10 (ten) (A)			
21.	Methods teaching	s of monitoring the qual process	ity of the	Anonymous evaluat subject itself and the classes.	ion from the studen teachers involved	ts for the in the			
	Literatu	re							
		Mandatory literature							
		Number	Author	Title	Publisher	Year			
		1.	Joint authors.	PCR-EAPCI Textbook	European Society of cardiology	2023			
	22.1.	2.	Topol E.	Textbook of Interventional Cardiology	New York: Elsevier	2019			
		3.	Emmanouil Brilakis E.	Manual of Percutaneous Coronary Interventions	New York: Elsevier	2020			
		Additional literature							
	22.2.	Number	Author	Title	Publisher	Year			
22.		1.	Kedev et al.	Minimalistic Approach for Transcatheter Aortic Valve Implantation (TAVI): Open Vascular Vs. Fully Percutaneous Approach.	Prilozi/Manu	2019			
		2.	Kedev et al.	Safety and feasibility of transulnar catheterization when ipsilateral radial access is not available.	Catheterization and cardiovascular interventions	2014			
		3.	Kedev et al.	Macedonia: coronary and structural heart interventions from 2010 to 2015.	Eurointervention	2017			

Number:21

umber:2		.	1 4					
	chment 3	Integrated cycle of studies – Subject program						
1.	Subject		COLOG	HARMACOLOO GICAL TREATM	GICAL AND IENT OF TYPE 2			
2.	Code	MEDI 21						
3.	Study program	General Me	dicine					
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of internal medicine						
5.	Degree of education (first, second, third cycle)	Integrated 6	-year stu	udies				
6.	Academic year/semester	Year	IV	Semester	VIII			
7	ECTS credits	1						
8.	Professor (when more professors, responsible professor is assigned)		a Milen	kovic, PhD, MD				
9.	Language of the study	English						
10.	Preconditions for attending the classes and taking the subject's exam	In order to g	get to the e presen	t at the theoretical	it's necessary for the and practical course and			
11.	Subject program goals (competences) and study results:	pharmacolo The doctora diabetes trea this field, w patients that	gical tre l studen atment i hich is i enable	n the preparation of n development an a simpler preparat				
12.	Subject content in details by chapters and units, with study results for every chapter	cours on i Phy con Edu type • Ora new	rition fo nting an ntensive sical act trolled p cation a es, mean l therapy groups	r people with diab d advanced carbol e insulin treatment civity, types of phy performance and b nd self-control of ing and practical y – detailed famili	vsical activity, its enefit from it people with diabetes,			

	r		r						
			Insul	in therapy, types of insulin	, insulin regimens,				
				ations for their use					
				uation of scientific literatur					
				inars (2) on carbohydrate co					
			need	•	Sunting, daily caloric				
			Consultations						
				• A small written paper by the doctoral student (seminar					
			work						
			Practical con	urse:					
				y caloric needs, determining					
				idual menu) for people wit					
				tical self-control and therap	by of diabetes - to live 3				
10	T (as a person with diabetes					
13.		connection	Related to all	subjects in the study progr	ram				
	Detwe	en subjects							
14.	Descr	iption of the	Interactive le	ctures, monitoring of scien	tific literature.				
		ct's study		preparation of a seminar pa					
		orking		f daily caloric and carbohy					
		ods in details		, to live as a person with di	iabetes.				
15.		available	30 hours						
1(time frame		16.1	T (1 (* 1					
16.	activit	s of teaching	16.1.	Lessons – theoretical lessons, hours	5				
	activit	ues	16.2.	Practical lessons	10				
			10.2.	(laboratory, auditory),	10				
				seminars, team work:					
				hours					
			16.3.	Practice: hours					
	Other	forms of	17.1.	Project tasks: hours					
17.	activit	ties	17.2.	Individual tasks: hours					
4.7	-		17.3.	Studying at home: hours	15				
18.	-	irements for	0	onitoring of theoretical and practical teaching					
	signat	ure	Independer	nt preparation of a seminar	paper				
19	Metho	ods of assessm	ent						
17	19.1.	Tests: points	*	24-40					
	19.2.	Seminar pape	er/project.	24-40					
		written and o		-					
		presentation:	<u>^</u>						
	19.3.	Final exam: p		12-20					
20	Gradi	ing criteria (p	oints/grade)	Up to 59 points	5 (five) (F)				
				From 60 to 68 points	$\frac{6(\text{six})(\text{E})}{7(\text{six})(\text{E})}$				
				From 69 to 76 points	$\frac{7 (\text{seven}) (\text{D})}{8 (\text{sight}) (\text{C})}$				
				From 77 to 84 points	$\frac{8 \text{ (eight) (C)}}{9 \text{ (ninc) (P)}}$				
				From 85 to 92 points From 93 to 100	$\frac{9 \text{ (nine) (B)}}{10 \text{ (ten) (A)}}$				
				points	10 (ten) (A)				
				points					

21.	quality	y of t	i monitoring the teaching proces	S S	Student anonymous evaluation of the subject and the teachers and associates who participate in teaching		
22.	Additi		literature				
		Ma 1.	ndatory White JR, PharmD PA	for	de to Medications the Treatment of betes Mellitus	American Diabetes Association	2021
	22.1.	2.	Schroeder EB	2 D Am	nagement of Type iabetes: Selecting ongst Available rmacological ents.	Available from: https://www.ncbi.nlm .nih.gov/books/NBK4 25702/	2022
		3.	Holt RIG, Cockram C, Flyvbjerg A, Goldstein BJ (Editors)	Tex	tbook of Diabetes, Edition	Hoboken: Wiley- Blackwell	2017
		Ade	ditional				
		1.	American Diabetes Association	Ass Prac	erican Diabetes ociation. Clinical etice ommendation, 2013	American Diabetes Association	2013
	22.2.	2.	Wolfsdorf JI, Editor		nsive Diabetes nagement, 5th ion	American Diabetes Association	2012
		3.	American Diabetes Association and American Dietetic Association	Exc	oose Your Foods- hange Lists for betes	American Diabetes Association	2008

Numa Atta	achment 3	Integrated cycl	e of studies – S	ubject program				
1.	Subject			S AND WORK-F	RELATED			
2.	Code	MEDI 22						
3.	Study program	General medicine						
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Faculty of Medicine,						
	chair, department)	Department of Occupational Health						
5.	Degree of education (first, second, third cycle)	Integrated 6-yea						
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh (XI)			
7	ECTS credits							
8.	Professor (when more professors, responsible professor is assigned)	Prof. Jordan Minov PhD, MD						
9.	Language of the study	English						
	Preconditions for attending			asses: Signature f	or the subject			
	the classes and taking the							
10.	subject's exam	In order to take the final exam, the student has to prepare a seminar paper in written form, make a Power point presentation and has to present the seminar paper orally.						
11.	Subject program goals (competences) and study results:	 Studying the pathogenesis, diagnostics, treatment and prevention of occupational diseases and work-related diseases Case reports and demonstration of epidemiological and clinical research of the occupational diseases and work related diseases Seminar work in occupational pathology 						
12.	Subject content in details by	Theoretical cou	, ,	1 05				
	chapters and units, with study results for every chapter	 Occupational diseases and work-related diseases – definition, legislation, pathogenesis, diagnostics, treatment and prevention Occupational diseases and work-related diseases of the lungs Occupational diseases of the liver 						
			tional diseases o tional malignant	f the locomotor syneoplasm	ystem			
		Lung diOccupaOccupa	related to work/ seases related to tional contact de tional lead poiso tional hearing lo	occupational asth asbestos exposur ermatitis – case rep oning – case report ss – case report	re – case report port			

			COPD related to occupational exposuresOccupational zoonoses				
13	Intercon	nection between	Related to all subjects in the study program				
14.		on of the subject's l working methods	Interactive th	eoretical teaching, prac	ctice, seminars		
15.		ilable time frame	30 hours				
16.		teaching activities	16.1.	Lessons – theoretical	lessons, hours	5 hours	
		U	16.2.	Practical lessons (lab auditory), seminars, t hours		10 hours	
	04h f		16.3.	Practice: hours			
17.	Other for	ms of activities	17.1.	Project tasks: hours			
1/.			17.2. 17.3.	Individual tasks: hou		15 hours	
18.	Dequinon	nents for signature	Conditional	Studying at home: ho	ours	13 nours	
10.		iento for signature	In order to ge theoretical, p	In order to get a signature, the student needs to attend the theoretical, practical lectures and seminars and earn a minimum number of points.			
19.		of assessment	•				
	19.1.	Tests: points			Oral exam 15 -	– 25 points	
	19.2.	Seminar paper/project points	ct, written and	oral presentation:	Seminar paper 25-35 points		
	19.3.	Final exam: points			20 – 40 points		
					of the points fr	ording to the sed on the sum rom all inuous tests and	
20	Grading	criteria (points/grade)	Up to 59 points		5 (five) (F)	
			·	From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
				From 93 to 100 points		10 (ten) (A)	
21.	Methods teaching	of monitoring the qua process	ality of the	Anonymous student of teachers and associat			
22.	Literatur	e					
	I						

	Mandatory literature				
	Number	Author	Title	Publisher	Year
22.1.	2.	Minov J.	COPD and Occupational Exposures	New York: Nova Science Publishers, Inc.	2016
	Additional literature				
22.2.	Number	Author	Title	Publisher	Year
	1.	Minov J.	Occupationally- related Diseases of Lung and Pleura	Skopje: Pristopi& Institut za medicina na trudot na R. Makedonija,	2009
	2.	Bislimovska Karadzinska J, Minov J, Risteska- Kuc S, Mijakoski D, Stoleski S.	Occupational Medicine	Medical Faculty, Skopje	2011

Numł Atta	ichment 3	Integrated cycle of studies – Subject program					
1.	1. Subject JOB STRESS AND BURNOUT						
2.	Code	MEDI 23					
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss. Cyril and Meth	nodius, Univers	ity in Skopje, Fa	aculty of		
	chair, department)	Medicine, Departi	nent of Occupa	tional Medicine	2		
5.	Degree of education (first, second, third cycle)	Integrated 6-year	Integrated 6-year studies				
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh (XI)		
7	ECTS credits	1			• • •		
8.	Professor (when more	Associate Prof. Dr	ragan Mijakosk	i, PhD, MD			
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for attending	Signature for the s	subject Occupat	ional Medicine			
10.	the classes and taking the subject's exam						
11.	Subject program goals	To obtain knowled	lge and skills fo	or: application o	f basic principles		
	(competences) and study		for identification of workplace psychosocial hazards; analysis of				
	results:	job stress and burn methodology for a					

12.	Subject content in details by chapters and units, with study results for every chapter	workplace int workplace int workplace psy of organisatio research. Theoretic • Psych defini • Impor • Analy • Job st and au • Burno • Devel towar psych • The ru of org studie Practical • Devel of workp drawi • Devel of job Seminar	rtance of workplace psychosocial haz ysis of the Job Demands/Resources M tress and burnout - definitions, epiden dverse effects out vs. Job engagement rtance of organizational culture and te lopment and conduction of workplace rds prevention of adverse effects of w hosocial hazards ole of action research in development ganisational interventions - epidemiol es with evaluation of scientific literatu	rerse effects of and application nciples of action ept and ards lodel of burnout niological data, eam work interventions orkplace and application ogical and case ure in the field ogy for analysis burnout for analysis of mout and ns for reduction action research
13	Interconnection between subjects	Related to all	subjects in the study program	
14.	Description of the subject's study and working methods in details	work	ctures (theoretical course), practical le	essons, seminar
15.	Total available time frame	30 hours	_	
16.	Forms of teaching activities	16.1. 16.2.	Lessons – theoretical lessons, hours Practical lessons (laboratory,	5
			auditory), seminars, team work: hours	
		16.3.	Practice: hours	/
17	Other forms of activities	17.1.	Project tasks: hours	/
17.	Other forms of activities	17.1. 17.2. 17.3.	Project tasks: hours Individual tasks: hours Studying at home: hours	/ / 15

18	Requiren	nents for signature	In order to take a signature, the student has to attend theoretical lectures, practical lessons and seminars and to obtain minimum points for each activity.				
			Seminar work	and the final exam, the in Word format and swell as to have an or	to create a Power	r point	
			according to th	the subject is calculate the sum of points for e as well as final oral of	ach activity, cont		
19	Methods	of assessment					
	19.1.	Tests/active participa	Theoretical cou 10-20 points Practical lesson 10-20 points				
	19.2.	Seminar paper/project	Seminar work				
		points		- -	25-35 points		
	19.3.	Final exam: points			Oral examination 15-25 points		
20	Grading	criteria (points/grade)		Up to 59 points	5 (five) (F		
	8	u o,		From 60 to 68		6 (six) (E)	
				points			
				From 69 to 76	7 (seven) (I		
				points			
				From 77 to 84	8 (eight) (
				points			
				From 85 to 92	9 (nine) (B		
				points			
				From 93 to 100	10 (ten) (A)		
				points			
21.	Methods teaching	of monitoring the qua process	lity of the	Anonymous studer teachers and collab process.			
	Literatur	e					
		Mandatory literatur	e				
		Number	Author	Title	Publisher	Year	
		1.	Rom WN	Environmental	Boston:	2007	
22.	22.1.		(ed.)	and Occupational Health (4 th ed.)	Lippincot & Williams,		
		2.	Tulchinsky T, Varavikova E.	The New Public Health (3 rd ed.)	San Diego: Academic Press,	2014	
		Additional literature	•				
	22.2.	Number	Author	Title	Publisher	year	

	1.	Leka S,	Work	Geneva:	2004
		Griffiths A,	Organization and	World Health	
		Cox T,	stress: systematic	Organization	
		Institute of	problem	(WHO)	
		Work, Health	approaches for		
		&	employers,		
		Organizations	managers and		
			trade union		
		G (G	representatives	<u> </u>	1000
	2.	Sauter S,	Stress at Work.	Cincinnati, OH:National	1999
		Murphy L,	DHHS (NIOSH) Publication No.	Institute for	
		Colligan M, et al.	99-101	Occupational	
		ct al.	33- 101	Safety and	
				Health	
				(NIOSH)	
	3.	European	Guidance on	Luxembourg:	2000
		Commission,	work-related	Office for	
		Directorate-	stress. Spice of	Official	
		General for	life or kiss of	Publications	
		Employment	death?	of the	
		and Social		European	
		Affairs		Communities	
	4.	European	Work-related	Dublin:	2010
		Foundation	stress	European	
		for the		Foundation	
		Improvement		for the	
		of Living and		Improvement	
		Working Conditions		of Living and Working	
		Conditions		Conditions	
	5.	Bakker AB,	Work	New York,	2010
	5.	Leiter MP	engagement: a	NY:	2010
		(eds.)	handbook of	Psychology	
		(100)	essential theory	Press	
			and research		
	6.	Karadzinska-	Occupational	Skopje:	2011
		Bislimovska	Medicine	UKIM	
		J, Minov J,			
		Risteska-			
		Kuch S,			
		Mijakoski D,			
		Stoleski S.			

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	ichment 3	Integrated cycle					
1.	Subject	OCCUPATIONAL MALIGNANT NEOPLASMS					
2.	Code	MEDI 24					
3.	Study program	General Medicin					
4.	Institution (unit, institute,	Ss Cyril and Methodius University in Skopje, Faculty of					
	chair, department)	Medicine, Department of Occupational Medicine					
5.	Degree of education (first,	Integrated 6-year studies					
	second, third cycle)	Year Sixth (VI) Semester Eleventh					
6.	Academic year/semester	Year	Sixth (VI)	Semester	Eleventh (XI)		
7	ECTS credits	1					
8.	Professor (when more professors, responsible professor is assigned)	Associate Prof. Dr Sasho Stoleski					
9.	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	Signature on the subject Occupational Medicine In order to take the final exam, the student has to prepare a seminar paper in written form, make a Power point presentation and has to present the seminar paper orally.					
11.	Subject program goals (competences) and study results:	To provide knowledge and skills for the application of the basic principles for the prevention of occupational malignant neoplasms, evaluation of the available literature in this area, contribution to the implementation of health interventions for the prevention of these diseases and evaluation of intervention programs in this area. The student will be able to acquire professional knowledge, but also basic knowledge for performing scientific research work and producing a scientific paper in this field.					
12.	Subject content in details by	Brief content					
	chapters and units, with study results for every chapter						
		report • Occupati pleura - o • Occupati	s: ional malignant n ional malignant n case report ional malignant n ry tract - case rep	eoplasms of t	he lungs and		

13 14.	subjects Descriptio study and	ection between on of the subject's working methods in	 Occupational malignant neoplasms of the hematopoietic system - case report Occupational malignant neoplasms of the gastrointestinal tract - case report Occupational malignant neoplasms of the reproductive system - case report Occupational malignant neoplasms of the endocrine system - case report Seminar paper: Selected topics in the field of occupational carcinogens and occupational malignant neoplasms Related to all subjects in the study program Interactive teaching (theoretical), practice, seminars 				
15.	details Total avai	lable time frame	30 hours				
16.		teaching activities	16.1.	Lessons – theoretical	lessons, hours	5	
			16.2.Practical lessons (laboratory, auditory), seminars, team work: hours1			10	
	Other for	ms of activities	16.3.Practice: hours17.1.Project tasks: hours				
17.		ins of activities	17.2.	Individual tasks: hours		/	
			17.3.	Studying at home: hours			
18	Requirem	ents for signature	theoretical, p	criteria: et a signature, the stude oractical lectures and se umber of points.			
19	Methods of	of assessment					
	19.1.	Tests: points				25-35	
	19.2.	Seminar paper/project,	written and ora	l presentation: points		25-35	
	19.3.	Final exam: points			The grade for th is composed act to the grade tab on the sum of th from all activiti continuous tests final exam.	cording le, based ne points es,	
20	Grading c	riteria (points/grade)		Up to 59 points		(five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		even) (D)	
				From 77 to 84 points	8 (6	eight) (C)	

				From 85 to 92		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.	Methods of monitoring the quality of the teaching process			Anonymous student evaluation of the course and the teachers and associates participating in the teaching.		
	Literatur	·e				
		Mandatory literature				
		Number	Author	Title	Publisher	Year
	22.1.	1.	International Agency for Research on	IARC Monograph on the Evaluation of the Carcinogenic	Lyon: IARC	2018
22.			Cancer.	Risk of Chemical To Humans. Some Industrial Chemicals. Vol. 115.		
		Additional literature		-	1	
		Number	Author	Title	Publisher	year
	22.2.	1.	Rom WN (ed.)	Environmental and Occupational Health (4th ed.)	Boston: Lippincott & Williams,	2007
		2.	Anttila S, Boffetta P.	Occupational Cancers	New York: Springer	2014

Attachment 3		Integrated cycl	e of studies -	– Subject progra	m		
1.	Subject	PATHOPHYS CLASSIFICA	CEREBROVASCULAR DISEASES (ETIOLOGY, PATHOPHYSIOLOGY, RISK FACTORS, CLASSIFICATION, CONTEMPORARY DIAGNOSIS AND TREATMENT				
2.	Code	MEDI 25	MEDI 25				
3.	Study program	General Medicir	ne				
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Me Medicine, Depar		versity in Skopje, eurology	Faculty of		
5.	Degree of education (first, second, third cycle)	Integrated 6-yea	Integrated 6-year studies				
6.	Academic year/semester	Year	Fourth (IV)	Semester	Eighth (VIII)		
7	ECTS credits	1		1	1		

8.	Professor (when more	Prof. Anita Arsovska, PhD, MD				
	professors, responsible					
9.	professor is assigned) Language of the study	English				
).	Preconditions for attending	Signature from Neurology.				
10.	the classes and taking the subject's exam	To enter the exam, seminar work (writing text and presenting) is needed.				
11.	Subject program goals (competences) and study results:	 Acquaintance with the etiology, pathophysiological mechanisms, risk factors, clinical picture and modern diagnostic methods used in patients with cerebrovascular diseases Familiarity with modern therapeutic principles of cerebrovascular diseases treatment in accordance with experts' recommendations, and on basis of evidence-based medicine guidelines 				
12.	Subject content in details by	Theoretic	al course:			
	chapters and units, with study results for every chapter	 Theoretical course: Etiology, pathophysiological mechanisms, risk factors and division of cerebrovascular diseases Modern diagnostics of cerebrovascular diseases Modern treatment of cerebrovascular diseases Practical course: Examination of patients with transient ischemic attack Examination of patients with ischemic cerebrovascular stroke Review of patients with intracerebral and subarachnoid hemorrhage Familiarity with specific diagnostic techniques in cerebrovascular diseases diseases (ctm, mri, extracranial and transcranial color doppler sonography) Seminar work: Contemporary diagnostic techniques in cerebrovascular diseases Etiology, pathophysiology and classification of cerebrovascular diseases 				
			ontemporary therapy of cerebrovascul ifferential diagnosis of cerebrovascula			
13	Interconnection between subjects		all subjects in the study program			
14.	Description of the subject's study and working methods in details		PPP and exercises			
15.	Total available time frame	30				
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	5		
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	10		

	Other for	ms of activities	17.1.	Project tasks: hours			
17.			17.2.	Individual tasks: ho			
			17.3.	Studying at home: I	15		
18	Requiren	ents for signature	To obtain s	Fo obtain signature, active presence at theoretical lessons are			
			obliged.				
			The final r	nark is formed by sur	nmarizing the poi	nts of certain	
			5	0 1			
19	Methods	of assessment					
	19.1.	Tests: points				minmax. 15-25	
	19.2.	Seminar paper/project points	, written and	l oral presentation:		minmax. 25-35	
	19.3.	Final exam: points				minmax. 20-40	
20	Grading	criteria (points/grade)		Up to 59 points		5 (five) (F)	
				From 60 to 68		6 (six) (E)	
				points			
				From 69 to 76	7 (seven) (D)		
				points	8 (sight) (
				From 77 to 84 points			
				From 85 to 92	9 (nine) (B)		
				points	y (mile) (b)		
				From 93 to 100	10 (ten) (A		
				points			
21.		of monitoring the quali	ity of the	Anonymous studen			
	teaching	process		teachers and collaborators involved in the educational activities			
	Literatur	0		educational activitie	es		
	Literatur						
		Mandatory literature		· · ·	· · · ·		
	-	Number	Author	Title	Publisher	Year	
	22.1.	1.	Uluduz	Rare causes of	Cambridge	2022	
			D,	stroke	University		
			Arsovska A		Publisher		
22.		Additional literature	11				
	-	Number	Author	Title	Publisher	Year	
		1.	Roger S,	Clinical	Chicago: Mc	2020	
	22.2.		Aminof	neurology	Graw-		
			M,		Hill		
			Gringerb		Companies		
			D		Inc.		

Numb			<i>c</i> , 1	<u> </u>			
	chment 3	Integrated cycle of studies – Subject program					
1.	Subject	PATHOPHYSIOLOGY OF CENTRAL NERVOUS SYSTEM					
2.	Code		MEDI 26				
3.	Study program	General medicine					
4.	Institution (unit, institute,			versity in Skopje, Fa	culty of		
	chair, department)	Medicine, Depar		thophysiology			
5.	Degree of education (first,	Integrated 6-year	studies				
	second, third cycle)						
6.	Academic year/semester	Year	Third (III)	Semester	Sixth (VI)		
7	ECTS credits	1					
8.	Professor (when more	Associate Prof. Si	nisa Stojano	oski, PhD, MD			
	professors, responsible		5	, ,			
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for attending	•	attending th	e classes: passed exa	am of		
	the classes and taking the			of Pathophysiology			
	subject's exam	To take the exam the	he student is	required to actively	follow all of the		
10.	, and the second s	planned activities.					
		Theoretical course 10-20 points					
		practical lectures	5				
11.	Subject program goals	Study of the pathophysiology of brain functions with an integrated					
	(competences) and study	approach in the study of separate disorders of the central nervous					
	results:	system.					
12.	Subject content in details	Content of the sub		n:			
	by chapters and units, with	Theoretical teachi					
	study results for every			flow (ischemia of br	ain tissue,		
	chapter	hemorrhage, mole					
			yndrome (d	isturbances of:consc	ciousness,		
		behavior,		logical syndromes d			
		the cerebral cortex			ue to damage to		
			· 1	ansmission (disorder	rs of		
		neurotransmitters,			15 01		
		receptors)					
			cerebrosnin	al fluid and the hem	ato-cerebral		
		barrier (hydrocepl					
		CSF analysis).	.,				
		÷ ,	alysis and d	iscussion by separat	te groups of CNS		
		disorders	-	- 1	~ I		
		Seminar work: by	separate dis	sorders of the CNSS	study of the		
		pathophysiology of	of brain fund	tions with an integr	ated approach in		
				s of the central nerv	ous system.		
13	Interconnection between	Related to all subj	ects in the s	tudy program			
	subjects						
14.	Description of the subject's	Interactive teachir	ng (theoretic	al), exercises, semin	nar work		
	study and working methods						
	in details						

15.	Total avai	ilable time frame					
16.	Forms of	teaching activities	16.1.	Lessons – theoretical	lessons, hours	5	
		0	16.2.	Practical lessons (lab	oratory,	10	
			auditory), seminars, te		eam work:		
				hours			
			16.3.	Practice: hours			
15	Other for	ms of activities	17.1.	Project tasks: hours			
17.			17.2.	Individual tasks: hour			
			17.3.	Studying at home: ho		15	
18		ents for signature	The stude	nt is required to actively	follow all of the pla	nned activities.	
19		of assessment			1		
	19.1.	Tests: points					
	19.2.	Seminar paper/proj		and oral	25	5-35	
		presentation: points	5				
	19.3.	Final exam: points			15	5-25	
20	Grading of	riteria (points/grad	e)	Up to 59 points		5 (five) (F)	
				From 60 to 68		6 (six) (E)	
				points			
				From 69 to 76		7 (seven) (D)	
				points			
				From 77 to 84		8 (eight) (C)	
				points From 85 to 92		0 (min a) (D)	
				points		9 (nine) (B)	
				From 93 to 100		10 (ten) (A)	
				points		10 (ten) (11)	
21.	Methods	of monitoring the qu	ality of	Student anonymous e	valuation for the su	biect and the	
		ng process		teachers and associate			
				performance of teaching.			
	Literature	e					
		Mandatory literatu	ire				
		Number	Author	Title	Publisher	Year	
					New York:		
	22.1.	1.	McPhee SJ,	Pathophysiology of disease. An		2003	
			Ganong	introduction to	Langee medical Books/McGraw-		
22.			WF.	clinical medicine.	Hill		
		Additional literatu		I	I	1	
		Number	Author	Title	Publisher	Year	
	22.2.	1.	Gamulin	Pathophysiology	Zagreb:	2013	
			S. et al.		Medicinska		
					naklada		

	ber:27 achment 3	Integrated cycle of studies – Subject program				
1.	Subject	HEALTH ASSESSMENT AND STRATEGIC PLANNING FOR HEALTH IN COMMUNITY				
2.	Code	MEDI 27				
3.	Study program	General Medicine				
4.	Institution (unit,	University Ss Cyril and Methodius in Skopje, Faculty of medicine,				
	institute, chair, department)	Department of Social Medicine				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year Sixth (VI) Semester Eleventh (XI)				
7	ECTS credits	1				
8.	Professor (when more professors, responsible professor is assigned)	Prof. Fimka Tozija, MD, PhD				
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam: Introduction to Medicine To access to the final exam the student should produce a written seminar paper and make a power point presentation.				
11.	Subject program goals (competences) and study results:	 The teaching goals of this study program are to improve the knowledge of the student about health evaluation and by the end of this course the student to have skills and to be able to Understand the management cycle and planning process in public health Define the public heath problem and to set the priorities for the public health intervention in the community Analyze the public health problem and evidence- based process Plan and recommend strategically appropriate effective evidence – based intervention Monitor and evaluate the implementation of the intervention strategy 				
12.	Subject content in details by chapters and units, with study results for every chapter	 At the end of the theoretical course the student will have improved knowledge and competences about the following topics: Chapter 1: Management cycle: 1. Community health management cycle- a six – step planning process 2. System of setting basic priorities and introduction to PEARL Chapter 2: Problem definition and analysis: 1. Global goals and defining a community health problem 2. Analysis of a health problem: determinants, direct and indirect 				

					The grade of formed in acc the table of gr the sum of po	ordance with ades, based on	
	19.3.	Final exam: poi	nts		Min-max Theoretical cou Practical cours		
	19.2. Seminar paper/ points		project, written and oral presentation:		Min-max	30-50	
	19.1.	Tests: points				20.50	
19		of assessment					
	signature			tudent is required to ing and seminars and			
18		ments for		iteria for assessment			
			17.3.	Studying at home: hours		15 hours	
17.			17.2.	Individual tasks: ho	urs		
	Other fo	rms of activities	17.1.	Project tasks: hours			
			16.3.	hours Practice: hours			
			16.2.	auditory), seminars, team work:		10 hours	
16.	Forms of activities	f teaching	16.1.	Lessons – theoretical lessons, hours		5 hours	
16	frame						
15.	Total ava	ailable time	public health problem (seminar paper and power point presentation)30 hours				
	details			Preparation of a semi oblem (seminar paper	-	-	
	working	s study and methods in	workshops, group practical work and field work in community				
14.	3	ion of the	Interactive teac	hing, lectures, exercise	es, seminars, inte	eractive	
13	Intercon subjects	nection between	Related to all su	ibjects in the study pro	ogram		
			6. Developme	nt of a health strategy		у	
			-	nt of a health profile	unity		
			Chapter 1. Inter	evention in the commu	mity		
				and evaluation	Talli budget		
				n strategy design a work plan and prog	ram budget		
			practice				
			1. Selection of	s – good			
			Chapter 2: Inter	vention and strategy i	molementation		
			contributing 3. Formulation	g factors	ne, impact, proce	ess	

						activities, c	antinuous
						· · · · ·	
• •	<i>a</i> "					and final exam	
20	Grading criteria (points/grade)				Up to 59 points		5 (five) (F)
					From 60 to 68 points		6 (six) (E)
					From 69 to 76 points		7 (seven) (D)
					From 77 to 84 points		8 (eight) (C)
					From 85 to 92 points		9 (nine) (B)
					From 93 to 100 points		10 (ten) (A)
21.	Methods	of moni	itoring the quality	Ar	nonymous student's evalu	ation of the su	ubject, teachers
	of the tea	aching p	rocess	an	d collaborators involved	in the education	onal activities
	Literatu	re					
		Manda	atory literature				
		Num	Author		Title	Publisher	Year
		ber					
		1.	Detels R,		Oxford Textbook of	Oxford	2021
			Karim QA,		Global Public Health	University	
			Baum F.		[7th ed.]	Press	
	22.1.		Li L,				
			Leyland A.H.				
		2.	Tozija F, Spasovski	1	Guidace for planning	Faculty of	2013
			M, Kapasinov B.		and implementing	Medicine,	
22					public health	University	
22.					programs- Part 1	Ss Cyril	
						and	
						Methodius	
		Additi	onal literature				
		Num	Author		Title	Publisher	year
		ber					
		1.	Mellison M. et al.		Healthy Plan – it a	Centers for	2005
	22.2.				tool for planning and	Disease	
					managing public	Control	
					health		
		2.	Tulchinsky T,		The New Public	New York:	2023
			Varavikova E, Coh	en	Health. 4 th Edition	Elsevier	
			MJ.				

Num	ber:28					
Att	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	HEALTH POLICY				
2.	Code	MEDI 28				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,				
	institute, chair,	Department for Social Medicine				
	department)					
5.	Degree of	Integrated 6-year studies				
	education (first,					

Year	Circle (VII)				
Year	\mathbf{C} : \mathbf{A}				
	Sixth (VI)	Semester	Eleventh XI		
1			<u> </u>		
-					
Prof. Mome Spasovski M.D., Ph.D.					
English					
Social Medicir In order to en	Preconditions for attending the classes: successfully completed the subject Social Medicine and Health Economics. In order to enter the final exam, the student should prepare a seminar paper (written and oral presentation).				
 The student acquires the following knowledge and skills: Understanding the concept and practice of health policy Differentiate between policy and politics Knowledge on the development process of health policy documents Knowledge on structures and roles Understanding the co-creation and co-participation process in health research and health policy 					
Chapter 1. Hea 1. Organi 2. Public 3. Protec 4. Biolog 5. EU-He Study results: The student wi on which the h on health polic literacy. Chapter 2. Hea 6. Global 7. 50 yea Study results: The student Chapter 3. Acc	Ith Policy ization, manag health service tion of patients ical and medic ealth Policy Il gain knowled ealth care is or cies and comp Ith Reform Po ization and inf rs of global He	s: status and s' rights and cal-legal asp dge on the na ganized; ski aration anal licy fluence on P ealth Policy, ealthcare in	l prospects; responsibility of healthcare workers; ects of public health priorities; ational legal and institutional framework ills for critical thinking, process analysis lysis with EU policies, as well as legal Public Health; focus on the main points;		
	English Preconditions f Social Medicir In order to en (written and or The student act • Unders • Differe • Knowl • Unders researc • Advoc Theoretical co Chapter 1. Hea 1. Organi 2. Public 3. Protect 4. Biolog 5. EU-He Study results: The student without he he on health polic literacy. Chapter 2. Hea 6. Global 7. 50 yea Study results: The student Chapter 3. Acc 1. Quality 2. Clinica	English Preconditions for attending th Social Medicine and Health I In order to enter the final e (written and oral presentation The student acquires the follo Understanding the co Differentiate between Knowledge on the de Knowledge on struct Understanding the co research and health p Advocacy and health Theoretical course: Chapter 1. Health Policy Chapter 1. Health Policy Differentiate between Biological and medic EU-Health Policy Study results: The student will gain knowled on which the health care is or on health policies and comp literacy. Chapter 2. Health Reform Po G. Globalization and inf T. 50 years of global He Study results: The student Chapter 3. Accreditation of h Chapter 4.	English Preconditions for attending the classes: st Social Medicine and Health Economics. In order to enter the final exam, the st (written and oral presentation). The student acquires the following know Understanding the concept and p Differentiate between policy and Knowledge on the development Knowledge on structures and role Understanding the co-creation a research and health policy Advocacy and health leadership Theoretical course: Chapter 1. Health Policy Organization, management and p Public health services: status and Biological and medical-legal asp EU-Health Policy Study results: The student will gain knowledge on the monon which the health care is organized; skip Globalization and influence on P 50 years of global Health Policy, Study results: The student Chapter 3. Accreditation of healthcare in Quality of healthcare services Clinical guidelines and evidence 		

			Study results:		vledge, skills on how the process of					
			accreditation	is delivered with mix of the	corectical lessons and practical field work. ences the health policy and vice-verse.					
			Practical course: mix of classroom discussions using the methods of study scenarios and policy documents.							
					lic health councils, WHO stimulation					
			strategy asser		ne nearm councils, who simulation					
			Study results:							
			The students population's of health care	will be able to understa health status, social determ services. Moreover, the stu y preparing health policies	nd the role of health policy plays on inants of health, the delivery and quality dents will be equipped and gain practical to address priorities in public health and					
13	Interconn		Related to all	subjects in the study progra	am					
14.	between s		Theoreticall	aturas: interactiva lassara	group work, movie preview					
14.	Description Subject's			from the respective field.	group work, movie preview					
	and work			ses: seminars, case studies,	demonstration, role play.					
	methods i				of scientific literature, critical					
					olicy documents, consultations in					
			•	nterest, essays.						
15.	Total ava		30 hours							
16.	time fram Forms of		16.1.	Lessons – theoretical	5					
10.	activities	teaching	10.1.	lessons, hours	5					
	activities		16.2.	Practical lessons	10					
			10.2.	(laboratory,						
				auditory), seminars,						
				team work: hours						
			16.3.	Practice: hours						
	Other for	ms of	17.1.	Project tasks: hours						
17.	activities		17.2.	Individual tasks:						
				hours						
			17.3.	Studying at home: hours	15					
18	Requiren	nents for			required to attend at least 60% of the					
	signature				ing table, based on the sum of the points					
19	Methods	of assessm								
	19.1.	Tests: po	oints							
	19.2.	Seminar	paper/project, v	written and oral	min. – max.					
			tion: points		36 - 75 points					
	19.3.	Final exa	am: points		min. – max.					

20	Grading	criteria (no	vints/grade)	up to 59 points		5 (five) F	
20	Grauing	from 60 to 68 points from 69 to 76 points 7 (
					7	6 (six) E (seven) D	
				from 77 to 84 points		8 (eight) C	
				from 85 to 92 points		9 (nine) B	
				from 93 to 100 points		$\frac{10}{10}$ (ten) A	
21.	Mathada	of monitor	ing the quality		l aluation form for all the profe		
21.				collaborators perform		ucational	
	of the teaching process			activities	anee, mvorved m the ee	ucational	
	Literatu	re					
			ry literature				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Detels R,	Oxford Textbook of	Oxford University Press	2009	
			Beaglehole R, Lansang MA,	public health (5 th edition)			
			Gulliford M.	edition)			
		Additional literature					
		Number	Author	Title	Publisher	year	
		1.	Donev D,	Social Medicine	Skopje: UKIM, Medical	2013	
			Spasovski M,		Faculty		
			Kjosevska E,				
22.			Tozija F.				
	22.2.	2.	Davidovski B,	Law and Public	Skopje: Faculty of Law	2009	
			Tunachevski	Health	"Justinian Prima"		
			N, Pavlovska-				
	22.2.		Daneva A,				
			Trendafilovska				
			A,				
			Karandzinska				
			J, Spasovski				
		3.	M.	TT14h maliaian and	Wahaasa	I la ta	
		5.	Ministry of Health of the	Health policies and	Web page:	Up to	
			Republic of	documents	https://zdravstvo.gov.mk/#	date	
			Macedonia				
		4.	Maksi-	Public Health and	Skopje: Tabernakul	2011	
			Rozeno-Last,.	Preventive Medicine		2011	
			Volas RL. et				
			all.				
L			·	·	4		

Number:29

Atta	achment 3	Integrated cycle of studies – Subject program
1.	Subject	LAW AND PUBLIC HEALTH
2.	Code	MEDI 29
3.	Study program	General Medicine

4.	Institution (unit, institute, chair, department)	University Ss. Cyril and Methodius in Skopje, Faculty of Medicine, Department for Social Medicine				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year	First (I)	Semester	Second (II)	
7	ECTS credits	1	ł	I		
8.	Professor (when more professors, responsible professor is assigned)	Prof. Mome Spasovski	M.D., Ph.D.			
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Successfully completed the subject Introduction to medicine. In order to enter the final exam, the student should prepare a seminar paper (written and oral presentation).				
11.	Subject program goals (competences) and study results:	 public health resp 3. Use of the prince national, state, re 4. Understanding administration, p. 5. Health policy an legislation 6. Health promotion 	health functions ods available to consibilities and iples of the Ne gional and local the Macedon rovision of health and public health	at different levels of government organ activities w Public Health i level of administra- nian healthcare th care and accredi (impact of global aspects	izations to work with in the activities of the ation system (legislation, tation) lization and review of	
12.	Subject content in details by chapters and units, with study results for every chapter	 7. Biological and medical-legal aspects of public health priorities Theoretical course: Chapter 1. The health legislation framework 4. Health care organization and health system 5. Public services in the Republic of Macedonia 6. Health workforce Study results: The student will gain better understanding to all crucial law documents on which the concept of health care is organized in our country. Chapter 2. Health policy 7. Health strategies and national programs, action plans 8. Legal aspects of health promotion Study results: 				

			gain knowledge on the important inter					
		e 1	ealth promotion action plans. The studen ysing such documents.	nt will develop critical				
		Chapter 3. Public I						
			omic determinants of health					
			nt of the health status of the population					
		-	ion, legislation and conventions of bioeth	nical and public health				
		priorities	oblems and challenges in public health					
		Study results:						
		•	gain practical skills on how to develop	a law or policy from				
			identification of public health priorities a					
		goals and writing t	goals and writing the documents.					
		Practical lessons: scenarios/studies of	Practical lessons: mix of classroom discussions using the method of case					
			Patients' rights,					
		Reproduct	•					
			racism and discrimination.					
		·	ole that law played in the public health in	npact of the pandemic.				
		Study results:	11 / 11 11					
			e able to gain knowledge on:	n is managed and				
			knowledge on how health legislation ted in practice;	n is prepared and				
			f law on public health programmes, pan	demics and the health				
			he population;					
		Moreover, the stud	lent will acquire skills for critical thinkin	g, analysing and legal				
		literacy.						
13	Interconnection between subjects	· ·	ects in the study program					
14.	Description of the		es: interactive lessons, group work, movi	ie preview				
	subject's study		the respective field.	a nlav				
	and working methods in details		eminars, case studies, demonstration, rol discussions, evaluation of scientifi					
	methous muctans		lerstanding of law documents, consultat					
		interest, essays.		e				
15.	Total available	30 hours						
1(time frame	16.1.	Lessons – theoretical lessons, hours	5				
16.	Forms of teaching activities	16.2.	Practical lessons (laboratory,	10				
	activities	10.2.	auditory), seminars, team work:	10				
			hours					
		16.3.	Practice: hours					
	Other forms of	17.1.	Project tasks: hours					
17.	activities	17.2.	Individual tasks: hours					
		17.3.	Studying at home: hours	15				
18	Requirements for		gnature, the student is required to attend	at least 60% of the				
	signature	theoretical and pra	ctical classes.					

		The grade is formed according to the rating table, based on the sum of the points from all activities.						
19	Methods	of assessm						
	19.1.	Tests: p				n/a		
	19.2.		r paper/project, writ ation: points	ten and oral		min. – max. 36 - 75 points		
	19.3.	Final ex	am: points			min. – max. 15 - 25 points		
20	Grading	criteria (p	oints/grade)	up to 59 points		5 (five) F		
				from 60 to 68 points		6 (six) E		
				from 69 to 76 points		7 (seven) D		
				from 77 to 84 points		8 (eight) C		
				from 85 to 92 points		9 (nine) B		
				from 93 to 100 points		10 (ten) A		
21.		of monito ing proces	ring the quality of s			uation form for all the professors and nce, involved in the educational		
	Literatur	·e						
		Mandato	ory literature					
		Number	Author	Title	Publisher	Year		
	22.1.	1.	Tulchinsky TH, Varavnikova EA.	The New Public Health: An introduction for the 21 st century	San Diego: Academic press	2001		
22.		2	Detels R., Beaglehole R., Lansang MA., Gulliford M.	Oxford Textbook of public health (5 th edition)	Oxford University Press	2009		
		Addition	al literature					
		Number	Author	Title	Publisher	Year		
	22.2.	1.	Davidovski B, Tunachevski N, Pavlovska- Daneva A, Trendafilovska A, Karandzinska J, Spasovski M.	Law and Public Health	Skopje: UKIM, Faculty of Law	2009		

Numb			G 1 • 4				
	chment 3	Integrated cycle of studies – MIGRANT HEALTH	Subject pro	ogram			
1.	Subject						
2.	Code	MEDI 30 General Medicine					
3.	Study program	University Ss Cyril and Methodius in Skopje, Faculty of Medicine,					
4.	Institution (unit,			pje, Faculty of M	ledicine,		
	institute, chair,	Department of Social Medicin	e				
5.	department) Degree of education	Integrated 6-year studies					
з.	(first, second, third	integrated 0-year studies					
	cycle)						
6.	Academic	Year First (I) Semester Second					
••	year/semester		1 1150 (1)	Semester			
7	ECTS credits	1					
8.	Professor (when more	Prof. Fimka Tozija MD, PhD					
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for	None					
10.	attending the classes	To access to the final exam the	student sho	ould produce a w	ritten seminar		
10.	and taking the subject's	paper and make a power point	presentation	n.			
	exam						
11.	Subject program goals	The teaching goals of this stud	y program a	are to improve th	e knowledge		
	(competences) and	of the student about migrant he	ealth and by	the end of this of	course the		
	study results:	student to have skills and to be	•				
		Recognize the main category	ories of mig	rants and their cl	naracteristics		
		 Know the main factors cor 	•				
		of migrants and limited ac	-		-		
		integration in the host cou		th care as an obs	state for them		
		_	-	1.1 . 1.	1 1/1 *		
		• Know the legislation on hu	U	U	health in		
		Republic of North Macedo		•			
		• Recognize the barriers to h			•		
		• Be aware about the status	of migrants	globally and esp	ecially in		
		Europe					
12.	Subject content in	At the end of the theoretical co	ourse the stu	dent will have in	nproved		
	details by chapters and	knowledge and competences a	bout the fol	lowing topics:			
	units, with study results						
	for every chapter	Chapter 1: Definitions and con	cepts:				
		1. Introduction to the main ca	-	migrants, refuge	es, asylum		
		seekers and undocumented	•	<i>C</i> , <i>B</i>	· J		
		2. Introduction to the key cor	e	ead to health ine	quality, such		
		as: ethnicity, gender, race,	-				
		illiteracy, as well as the im					
		health					
		incartii					
		Chapter 2: Migration, mobilit	v status and	l challenges.			
		Chapter 2. Wingration, mobilit	y, status and	i chancinges.			

				•		
			3. Differences betwee migrants	en migrants, asylui	n seekers and undo	cumented
			4. Reasons for the cu	rrent mobility and	migration of the pop	pulation in
			the world and Eur	ope		_
			5. Contributing facto	ors for poor health o	of migrants and refu	gees
			6. The current situat	ion in Republic of I	North Macedonia, p	rofile and
			living conditions of	of migrants, undocu	imented migrants ar	nd refugees
			Chapter 3: Legislation		-	
			7. Legislation for hu	-	-	
					rants, refugees, und	ocumented
			e <i>i</i>	ountry and Europe		
			8. Integration policy	-		
			9. Data and research	÷		
			10. Heath system resp			
13	Intercon		Related to all subjects	in the study progra	m	
	between			· · ·	· · ·	
14.	Descripti		Interactive teaching, le			workshops,
	•	study and group practical work and field work in community				
	details	g methods in Seminar work: preparation of a seminar assignment: seminar paper an				naper and
	uctans		power point presentati			
15.	Total ava	ailable time	30 hours			
10.	frame					
16.	Forms of	teaching	16.1.	Lessons – theoretical lessons, hours		5 hours
	activities		16.2.	Practical lessons	10 hours	
				auditory), seminars, team work:		
				hours		
			16.3.	Practice: hours		
15	Other for		17.1.	Project tasks: hou		
17.	activities		17.2.	Individual tasks:		
			17.3.	Studying at home		15 hours
18	Requiren signature		To get a signature the practical training and s			
	0		the final exam			
19	Methods	of assessment				
	19.1.	Tests: points				
	19.2.		/project, written and oral	presentation:	Min-max	30-50
		points				
	19.3.	Final exam: po	oints		Min-max	24-40
					Theoretical cours	
					Practical course	3-5
					The grade of the s	subject is
					formed in accorda	
					table of grades, ba	ased on the

						sum of points fror activities, continu assessment and fi	ous
20	Grading	criteria	(points/grade)		Up to 59 points		5 (five) (F)
				From 60 to 68 points			6 (six) (E)
					om 69 to 76 points		7 (seven) (D)
					om 77 to 84 points		8 (eight) (C)
					om 85 to 92 points		9 (nine) (B)
					m 93 to 100 points		10 (ten) (A)
21.	of the tea	aching p	toring the quality rocess		ous student's evaluators involved in the		
	Literatu	re					
		Manda	ntory literature				
		Numb er	Author		Title	Publisher	Year
		1.	WHO		Health literacy: The solid facts- WHO/Europe - World	World Health Organization	2013
	22.1.	2.	WHO		International migration, health and human rights	Office of thr High Commissioner for Human Rights and the International Organisation fot Migrants	2013
22.		3.	Tulchinsky T,Varali Cohen MJ.	nkova E,	The New Public Health. 4 th Edition	New York: Elsevier	2023
		4.	Rechel R, Mladovsk Devillé W, Rijks B, Benedict R, McKee	Petrova-	Migrants and the health in the European Union	European Observatory on Health Systems and Policies	2011
		Additio	onal literature				
		Numb er	Author		Title	Publisher	year
	22.2.	1.	WHO/ European Co on equity project	mmission	How health systems can address health inequities linked to migration and ethnicity	WHO	2010
		2.	IOM		Summary report on the MIPEX , Health Strand and Country Reports	IOM	2016

Atta	achment 3		le of studies – Su			
1.	Subject		AND STRUCTUI DFESSIONALS	RAL COMPETENC	IES OF	
2.	Code	MEDI 31				
3.	Study program	General Medicine				
4.	Institution (unit,	Ss. Cyril and M	ethodius Univers	ity in Skopje, Faculty	of Medicine,	
	institute, chair,	Department of S	Social Medicine			
	department)					
5.	Degree of education	Integrated 6-year study				
	(first, second, third					
	cycle)					
6.	Academic	Year	First (I)	Semester	Second (II)	
	year/semester					
7	ECTS credits	1				
8.	Professor (when more	Prof. Elena Kjo	sevska, Ph.D, MI)		
	professors, responsible					
-	professor is assigned)					
9.	Language of the study	English				
	Preconditions for	There is none				
10.	attending the classes	In order to take the final exam, the student has to write an essay on a give				
10.	and taking the	topic in written form.				
	subject's exam	~ .				
11.	Subject program goals	General purpo				
	(competences) and			uctural competencies		
	study results:			invisible discriminat		
				factors in the health c	are of patients	
		-	ocus on marginali	zed groups.		
		Other goals:			f	
				e, skills and technique a focus on cultural an		
			encies in health c		u su uctural	
		·		qualities in health car	e with special	
			n vulnerable grou		e with special	
			•	ps, ptance of the rights to	health and	
				nd European context.		
12.	Subject content in			ative ethics and techn		
14.	details by chapters and			lations, in everyday c		
	units, with study			ch on humans and vul		
	results for every	populat	•	n on numans and Vul		
	chapter	· · ·		efinition, the importa	nce of cultural	
	up to -			al context (cultural ide		
				d of communication,	,	
			tural education;	a or communication,	,	
				(notion of "structural	vulnerabilitv".	
			·	cioeconomic inequali	•	

		 He (stadis Ob app grocvic pec An vul lan Eu Th ess red Re 	 (stereotypes, prejudices, differences), principles of non-discrimination in the EU and in national frameworks; Observing the phenomenon of discrimination with an appropriate approach to health protection among vulnerable groups (HIV positive people, women and children victims of violence, LGBTI people, sex workers, people who use drugs, people with disabilities, Roma, poor people, and other groups); Analysis of the status of the Roma, as the most represented vulnerable groups (history, health, culture, employment, language, socio-economic status, emancipation, etc., (in European and national context); The notion of equality and its assumptions: formal and essential equality between different social groups and reduction of health differences; Respect for human rights to life, health, privacy, family life and non-discrimination 				
13	Interconnection between subjects	Related to	Related to all subjects in the study program				
14.	Description of the subject's study and working methods in details	Organizing Play a role Practicing observation	n of cases from clinica an open discussion in according to a given s listening techniques. w n, etc. essay on a given topic	small groups on a gi cenario;	•		
15.	Total available time frame	30					
16.			T				
	Forms of teaching	16.1.	Lessons – theoreti	cal lessons, hours		5	
	Forms of teaching activities	16.2.	Practical lessons (seminars, team wo	aboratory, auditory)	,	5 10	
200	activities	16.2. 16.3.	Practical lessons (seminars, team wo Practice: hours	aboratory, auditory) ork: hours	,	10	
	activities Other forms of	16.2. 16.3. 17.1.	Practical lessons (seminars, team wo Practice: hours Project tasks: hour	aboratory, auditory). ork: hours rs	,	10 5	
17.	activities	16.2. 16.3. 17.1. 17.2.	Practical lessons (seminars, team we Practice: hours Project tasks: hour Individual tasks: h	aboratory, auditory) ork: hours rs ours	,	10 5 5	
17.	activities Other forms of activities	16.2. 16.3. 17.1. 17.2. 17.3.	Practical lessons (seminars, team wo Practice: hours Project tasks: hour Individual tasks: h Studying at home:	aboratory, auditory) ork: hours rs ours hours		10 5 5 5 5	
	activities Other forms of	16.2. 16.3. 17.1. 17.2. 17.3. In order to g practical cla The grade f	Practical lessons (seminars, team we Practice: hours Project tasks: hour Individual tasks: h	aboratory, auditory), ork: hours ours ours hours ent needs to attend the um number of points. according to the grad ctivities, and the final	coretical a	10 5 5 5 ind	
17.	activities Other forms of activities Requirements for	16.2. 16.3. 17.1. 17.2. 17.3. In order to g practical cla The grade f on the sum	Practical lessons (seminars, team wo Practice: hours Project tasks: hour Individual tasks: h Studying at home: get a signature, the stude asses and earn a minimu or the subject is formed	aboratory, auditory), ork: hours ours ours hours ent needs to attend the um number of points. according to the grad ctivities, and the final	eoretical a e table, an exam.	10 5 5 5 and nd based	
17.	activities Other forms of activities Requirements for	16.2. 16.3. 17.1. 17.2. 17.3. In order to g practical cla The grade f on the sum TI	Practical lessons (1 seminars, team wood Practice: hours Project tasks: hour Individual tasks: hour Studying at home: get a signature, the study asses and earn a minimular or the subject is formed of the points from all action	aboratory, auditory), ork: hours ours ours hours ent needs to attend the un number of points. according to the grad ctivities, and the final	coretical a le table, at exam. Min	10 5 5 ind nd based max	
17.	activities Other forms of activities Requirements for	16.2. 16.3. 17.1. 17.2. 17.3. In order to g practical cla The grade f on the sum TI	Practical lessons (1 seminars, team wo Practice: hours Project tasks: hour Individual tasks: h Studying at home: get a signature, the study asses and earn a minimular for the subject is formed of the points from all ad	aboratory, auditory), ork: hours ours ours hours ent needs to attend the im number of points. according to the grad ctivities, and the final points	coretical a le table, an exam. Min 10	10 5 5 ind nd based max 20	

	19.2.	Seminar paper	/project, writter	n and oral presentation:	mi	n max	
		points			25	35	
	19.3.	Final exam: po	oints		Mi 15	n max 25	
20	Grading	criteria (points/	grade)	Up to 59 points			
	or waring	••••••	5)	From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points	7	(seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
21		e • 4 • 41	1. 1. C	From 93 to 100 points Anonymous student's ev	1 C.1 1.	10 (ten) (A)	
21.		of monitoring th ing process	teachers and collaborato activities				
	Literatur	re					
		Mandatory lite	erature				
		Number	Author	Title	Publisher	Year 2017	
		1.	Rita Charon	Principles and Practice of Narrative Medicine	Oxford University Press	2017	
22.	22.1.		Seth M. Holmes, Kelly R. Knight	Structural competency	PH 290 – Spring 2015, http://bit.ly/holm es_officehours	2015	
		3. 2.	Jonathan M. Metzl Helena Hansen	Structural competency: Theorizing a new medical engagement with stigma and inequality Structural Stigma and Population Health	Social Science & Medicine Volume 103, Pages 126–133	2014	
		2.					
		3.					
		Additional lite	rature	1	II		
	22.2.	Number	Author	Title	Publisher	year	

1.	Kjosevska E, Stefanovska VV, Najcevska M, Ismail Georgievska Lj, Spasovski M, Dimova C, Polozhani A, Mircevska L, Rajcanovska D.	Cultural and structural competencies of health professionals-textbook	Open Society Foundation - Macedonia	2018
2.	Kjosevska E, Stefanovska VV, Najcevska M, Ismail Georgievska L., Spasovski M, Dimova, Polozhani A, Mircevska L, Rajcanovska D.	Cultural and structural competencies of health professionals- practicum	Open Society Foundation - Macedonia	2018
3.	Charon Rita, Hermann Nellie, Devlin Michael.	Close Reading and Creative Writing in Clinical Education: Teaching attention, Representation and Affiliation	Washintong: AAMC; Academic medicine	2015

Numb							
	achment 3		f studies – Subject program				
1.	Subject		TH SIMMULATION IN PRIMARY CARE				
2.	Code	MEDI 32					
3.	Study program	General medicine					
4.	Institution (unit, institute,		odius University in Skopje, Faculty of Medicine				
	chair, department)	Department of fam	v				
5.	Degree of education (first,	Integrated 6-year s	tudies				
	second, third cycle)						
6.	Academic year/semester	Year	Fifth (V)SemesterNinth (IX)				
7	ECTS credits	1					
8.	Professor (when more	Prof. Katarina Stav	rrikj, PhD, MD				
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for attending	Received all the signatures from all the subjects from the eight					
10	the classes and taking the	semester. In order to take the final exam, the student has to pass the on line training, practical exercises and get a signature for completed					
10.	subject's exam						
11		practice and prepare a project task.					
11.	Subject program goals						
	(competences) and study results:	• acquire adequate theoretical and practical skills in l					
	results:		nethod of simulation and debriefing				
			solve the most common urgent conditions I				
		primary c					
12.	Subject content in details by		al perspectives and framework for simulation in				
	chapters and units, with	medicine					
	study results for every		healthcare simulation in primary care				
	chapter	1 0	the realism in healthcare simulation				
			ng humanism in practice				
			k and non-technical skills during simulation in				
		primary c					
		Gamificat					
			g simulation in primary care				
		0	to manage adverse events in simulation				
		Ų	- theory and practice				
			urgent conditions in GPs practice – BLS, ALS,				
			tis, palliative care emergency, convulsion in a				
12		child					
13	Interconnection between	Related to all subje	ects in the study program				
14	subjects	T , , · · · ·					
14.	Description of the subject's	Interactive teachin	g, practical work				
	study and working methods						
15	in details	20					
15.	Total available time frame	30	Transmither and the				
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons,				
			hours				

			16.2.	Practical les auditory), se hours	eminars, t			10
			16.3.	Practice: ho				
	Other for	ms of activities	17.1.	Project tasks				
17.			17.2.	Individual ta				
			17.3.	Studying at				
18	Requirem	ients for signature	In order to get a si to attend the theor from the knowled	etical and pract			get mi	nimum 75%
19	Methods	of assessment						
	19.1.	Tests: points						
	19.2.	Seminar paper/proje	ct, written and oral	presentation: p	oints			
	19.3.	Final exam: points	<i>`</i>	1 1				60-100
20	Grading	criteria (points/grade)	From 69 From 77 From 85 From 93	points points to 68 points to 76 points to 84 points to 84 points to 92 points	is formo grade ta sum of activitio	ed acco able, ba the por es, the and the	the subject ording to the ased on the ints of all continuous e final exam. 5 (five) (F) 6 (six) (E) 7 (seven) (D) 8 (eight) (C) 9 (nine) (B) 10 (ten) (A)
21.	Methods	of monitoring the qua	ality of the	Students' an	1	s evalua	ation of	f the subject
	teaching _]	process		and medical process				
	Literatur	e						
		Mandatory literatur	·e					
	-	Number	Author	Title	Publish	ner		Year
22.	22.1.	1.	Nestel D(Editor), Kelly ME (Editor), Jolly B (Editor), Watso n M (Editor)	Healthcare Simulation Education: Evidence, Theory and Practice	Boston: Wiley- Blackw		017	

	Additional literature				
22.2.	Number	Author	Title	Pu bli she r	Year
	1.	ERC	European Resuscitation Council Guidelines for Resuscitation	ER C	2021

Number:33 Attachment 3 Integrated cycle of studies – Subject program Subject **IMMUNISATION** 1. 2. Code MEDI 33 3. Study program General medicine 4. Institution (unit, Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, institute, chair, Department of family medicine department) **Degree of education** Integrated 6-year studies 5. (first, second, third cycle) Academic vear/semester Fifth (V) Ninth (IX) 6. Year Semester 7 **ECTS credits** 1 Prof. Dr Katarina Stavriki, PhD, MD 8. **Professor (when more** professors, responsible professor is assigned) 9. Language of the study English **Preconditions for** Received all the signatures from all the subjects from the eight semester. attending the classes and In order to take the final exam, the student has to pass the on line training, 10. taking the subject's exam practical exercises and get a signature for completed practice and prepare a project task. Students to expand their knowledge, skills and attitudes: 11. Subject program goals (competences) and study About the benefits of immunization results: Safe vaccine application For implementation of immunization in practice Supervision and monitoring of the immunization process Interpersonal communication about immunization Subject content will be organized in modules: 12. Subject content in details by chapters and units, • Module 1 Diseases and vaccines with study results for Disease for which vaccines are part of the immunization program every chapter Immunization program of Macedonia: Regular and CATCH-UP Immunization Calendar • Module 2 Cold chain use of cold chain and temperature monitoring equipment the basic maintenance of cold chain equipment. Module 3 Safety procedures during vaccination

		applicat Prevent Disposa Module 4 Mic Making and upo Identify Identify Identify Prepar Monito (default Module 5 man to infor vaccina to set u Module 6 Mon Surveill	ion of health workers from needle injuries al of used syringes and needles roplanning dating a map; ring priority health centres and communities; ying barriers to vaccination access; ying solutions and preparing a workplan; ing a vaccination plan; ring/finding children who missed scheduled ters). magement of the immunization process m the community in advance, before starting	vaccinations		
		 to train member Module 8 Inter Contin Active Algori CASE p 	nership with the community and motivate vaccination teams to work with rs and to improve the immunization process a rpersonal communication about immunization nuum of vaccinate hesitancy e listening ithms for communication protocol for communication with hesitant para nunication with the community	t every level		
13	Interconnection between subjects		bjects in the study program			
14.	Description of the subject's study and working methods in details		s, interactive teaching, practical work under prevention team.			
15.	Total available time frame	30				
16.	Forms of teaching activities	16.1. 16.2.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours	5 10		
17.	Other forms of activities	17.1. 17.2.	Project tasks: hours Individual tasks: hours			
		17.3.Studying at home: hours15				
18	Requirements for signature		a signature, the student needs to complete the ad the theoretical and practical classes and get			

19		of assessment	•		Γ	
	19.1.	Tests: points			40	
	19.2.	Seminar paper/p points	roject, written and or	al presentation:	20	
	19.3.	Final exam: poin	ts		40	
					The grade for the formed according table, based on the points of all activit continuous checks exam.	to the grade e sum of the ties, the
20	Grading	criteria (points/gr	ade)	Up to 59 points		5 (five) (F)
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		8 (eight) (C)
			From 85 to 92 points	9 (nine) (B		
				From 93 to 100 points		10 (ten) (A)
21.	Methods teaching Literatu		quality of the	Students' anonymous medical staff include		
	Litter atu	Mandatory litera	iture			
		Number	Author	Title	Publisher	Year
22.	22.1.	2.	Karam R, Rennie W, Stephanie Clayton S.	Interpersonal Communication for Immunization Training for Front Line Workers	UNICEF	2019
		Additional litera	ture			
		Number	Author	Title	Publisher	Year
	22.2.	1.	WHO	Immunization in practice: a practical guide for health staff – 2015 update.	WHO Immunization in practice: a practical guide for health staff (who.int)	2015

	mber:34 achment 3	Integrated cyc	le of studies – Sul	oject program					
1.	Subject	SMOKING CESSATION IN PRIMARY CARE							
2.	Code	MEDI 34							
3.	Study program	General medic	General medicine						
4.	Institution (unit,	Ss. Cyril and M	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department						
	institute, chair,	•	family medicine						
	department)	5							
5.	Degree of education	Integrated 6-year	ar studies						
	(first, second, third								
	cycle)								
6.	Academic	Year	Fifth (V)	Semester	Ninth (IX)				
_	year/semester								
7	ECTS credits	1							
8.	Professor (when	Prof. Katarina S	Stavrikj, PhD, MD						
	more professors,								
	responsible								
	professor is								
9.	assigned) Language of the	English							
9.	study	English							
	Preconditions for	Received all the	signatures from a	Il the subjects from	the eight semester				
	attending the classes	Received all the signatures from all the subjects from the eight semester. In order to take the final exam, the student has to pass the on line training, pra							
10. and taking the exercises and get a signature for completed practice and prepare a									
	subject's exam			emprese provide a					
11.	Subject program	Subject program	n:						
	goals (competences)			noking and the need	for tobacco addiction				
	and study results:	treatme		-					
			rief advice – ask, a						
					l pharmacological treatment.				
				sked questions from	patients.				
		• E-cigar							
10			tional interview	1 111 1					
12.	Subject content in				es to initiate support in the				
	details by chapters			mary care setting:	ting addiction and the need				
	and units, with		atment.	ects of smoking, nice	otine addiction and the need				
	study results for every chapter			d skills to provide a	very brief advice in primary				
	every chapter		actice.	a skills to provide a	very oner advice in primary				
				d skills for practicing	g a combined model for the				
			ent of tobacco add						
		To guid	le the patient throu	gh pharmacological	therapy, possible				
			nations and their s		17/1				
		• To be a	ble to prepare an i	individual smoking o	cessation plan using the				
			ble to prepare an index model.	individual smoking o	cessation plan using the				
		combin	ned model.	-	f the process of quitting				
		combin • To undo smokin	ned model. erstand the difficu ng.	lty and complexity o	f the process of quitting				
		• To undo smokin • To gain	ned model. erstand the difficu ng. . knowledge about	lty and complexity o	f the process of quitting disadvantages of E-cigarettes				

			motivat	motivational interview in the management of a patient with tobacco addiction.				
13	Intercon between	nection subjects	Related to all sub	ojects in the st	tudy	program		
14.	Descrip	tion of the	Interactive teach			k under		
	working details	s study and gmethods in	mentoring in a p	revention tean	n.			
15.	5. Total available time 30 frame							
16.	Forms o	f teaching	16.1.	Lessons – th	neor	etical lessons, hours	5	
	activitie	8	16.2.	Practical less team work:		s (laboratory, auditory), seminars, rs	10	
			16.3.	Practice: hou				
	Other fo		17.1.	Project tasks	s: ho	ours		
17.	activitie	8	17.2.	Individual ta				
			17.3.	Studying at 1			15	
18	Require signatur	ments for e	In order to get a scalar classes and get n		the student needs to attend the theoretical and practical oints.			
19	Method	s of assessme	nt					
	19.1.	Tests: point	ts					
	19.2.	Seminar pa presentation	per/project, written	and oral		15-30		
	19.3.	Final exam	1			45-70		
20	Grading	-	-	o 59 points			(five) (F)	
20	(points/g		From 60 to				6 (six) (E)	
	(1 , , , 2	,,	From 69 to				seven) (D)	
			From 77 to				(eight) (C)	
			From 85 to			9	(nine) (B)	
			From 93 to				O(ten)(A)	
21.	Method		÷	ous evaluatior	n of	the subject and medical staff included in	the	
	monitor		teaching process					
	quality (g process						
	Literatu							
	Littitutu	Mandatory	literature					
		Number	Author	Title		Publisher	Year	
22.	22.1.	1.	ENSP	Guidelines f treating tobacco dependence		guidelines_2020_english_forprint.pdf (ensp.network)	2020	
		Additional l	iterature	acpendence			l	
	22.2.	Number	Author	Title		Publisher	Veor	
		TAUIIIDEI	Autioi	11110			year	

	2.	IPCRG	PCRS	Layout 1 (ipcrg.org)	2019
			Pragmatic		
			Guides for		
			Clinicians		
			Diagnosis and		
			management		
			of Tobacco		
			Dependency		

	per:35 achment 3	Interneted avala of studies Subject measure					
1.	Subject	Integrated cycle of studies – Subject program KINESITHERAPY					
1. 2.	Code	MEDI 35					
<u>2.</u> 3.	Study program	General Medicine					
<i>3</i> . <i>4</i> .	Institution (unit, institute,						
4.	chair, department)	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Physical Medicine and Rehabilitation					
	chan, ucparement)	Noticine, Department of Physical Medicine and Remainfution					
5.	Degree of education (first,	Integrated 6-year studies					
	second, third cycle)						
6.	Academic year/semester	Year Fifth (V) Semester Ninth (IX)					
7	ECTS credits	1					
8.	Professor (when more	Associate professor Valentina Koevska, PhD, MD					
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for attending						
10.	the classes and taking the	Filled in enrollment in IX semester					
	subject's exam						
11.	Subject program goals	• Introduction to basic principles of the use of					
	(competences) and study	kinesitherapy in prophylaxis and in the process of					
	results:	medical rehabilitation.					
		 Introduction with kinesitherapy methods and the means of kinesitherapy 					
		• Introduction with kinesitherapy as a therapeutic					
		procedure with its own indications and contraindications					
		• Link the efficacy of kinesitherapy with other physical					
		agents					
12.	Subject content in details by	• The place of kinesitherapy in physical medicine and					
	chapters and units, with	rehabilitation					
	study results for every	• Biological effects of kinesitherapy on locomotor,					
	chapter	nervous, cardiovascular, respiratory and digestive					
		systems					
		• The influence of kinesitherapy on the psychic, social and					
		professional position of the patientGoals of kinesitherapy					
		 Goals of kinestinerapy Principles of kinesitherapy 					
		 Principles of kinesitherapy Means of kinesitherapy 					
		- means of kinesimerapy					

			 Dosage of kinesitherapy The starting position of the exercises Kinesitherapy equipment Methods of monitoring and recording in kinesitherapy Recreational gymnastics and kinesitherapy through sporting activities 					
13	Intercon subjects	nection between	Related to all subjects in the study program					
14.	Descript study an in details			teaching, lectures, prac gnments, independent a				
15.	Total av	ailable time frame	30 classes					
16.	Forms o	f teaching activities	16.1.	Lessons – theoretica hours	ıl lessons,	5		
			16.2.	Practical lessons (la auditory), seminars, hours		10		
			16.3.	Practice: hours				
	Other fo	rms of activities	17.1.	Project tasks: hours				
17.			17.2.	Individual tasks: ho				
			17.3.	Studying at home: h		15		
18	Require	ments for signature	The student activities	is required to actively for	ollow all of the pla	anned		
19	Methods	s of assessment	•					
	19.1.	Tests: points				18-30		
	19.2.	Seminar paper/proje	ect, written an	d oral presentation:		36-60		
	points 19.3. Final exam: points				1 Final test po they have not p continuous che The student is achieve a mini expected point the exam is no	oassed the eck) obliged to mum of the s. In contrast,		
	19.4	Active participation			Theoretical commax): 6-10 points Attending the t lessons 51% -60% 6 pr 61% -70% 7 pr 71% -80% 8 pr 81% - 90% 9 pr 91% - 100% 10	heoretical oints oints oints points		

20	Grading	criteria (points/grade)		Up to 59 points		5 (five) (F)
20	orading	(pointe, grade)		From 60 to 68		6 (six) (E)
				points		
				From 69 to 76		7 (seven) (D)
				points		
				From 77 to 84		8 (eight) (C)
				points		
				From 85 to 92		9 (nine) (B)
				points		
				From 93 to 100		10 (ten) (A)
				points		
21.		of monitoring the qual	ity of the	Student anonymous		
	teaching	process		the teachers and coll	laborators particip	pating in the
	T •4 4			teaching		
	Literatu					
		Mandatory literatu	re			
		Number	Author	Title	Publisher	Year
		1.	Braddom R.	Physical Medicine and Rehabilitation.	New York: Elsivier	2011
	22.1					
	22.1.	2.	De Lisa J.	DeLisas' Physical	Philadelphia:	2011
				Medicine and	LWW	
				Rehabilitation.		
				Principles and		
22.				Practice		
		Additional literatur	re			
		Number	Author	Title	Publisher	year
		1.	Nikolic-	Exercise therapy	Skopje:	2011
			Dimitrova	(Kinesitherapy),	Laserjet	
	22.2.		E	Physical Medicine		
				and Rehabilitation		
		2.	Stojanovska	Fundimentals of	Skopje:	2010
			M	kinesitherapy	Pergament	
					Pablic	

Numb Atta	achment 3	Integrated cycle of studies – Subject program						
1.	Subject	PHYSICAL AGENTS IN PAIN TREATMENT						
2.	Code	MEDI 36						
3.	Study program	General Medicine						
4.	Institution (unit,		Ss Cyril and Methodius University in Skopje, Faculty of Medicine,					
	institute, chair,	Department of Physical M	Iedicine and Reha	bilitation				
	department)							
5.	Degree of	Integrated 6-year studies						
	education (first,							
	second, third							
	cycle)				I.			
6.	Academic	Year	Fifth (V)	Semester	Ninth (IX)			
	year/semester							
7	ECTS credits							
8.	Professor (when	Prof. Erieta Nikolikj Dimi	itrova, MD, PhD					
	more professors, responsible							
	professor is							
	assigned)							
9.	Language of the	English						
	study	6						
	Preconditions for	Requirement for the ninth	semester fulfilled					
	attending the	-						
10.	classes and taking							
	the subject's							
11	exam							
11.	Subject program	Teaching goals:						
	goals (competences)		owledge for funda	· ·	•			
	and study results:		owledge for physi	ological and thera	peutic effects			
	and study results.		ical modalities		a da in			
		treatment and	owledge about us	age of these metho	ous m			
			lowledge and train	ing for applying p	hysical			
		modalities in	treatment of acute	ning for apprying p	nysicai			
			lowledge and train	1	hysical			
			treatment of chron					
12.	Subject content in	Theoretical course:						
	details by		s of electrotherapy					
	chapters and	Galvanic curr						
	units, with study	Iontophoresis						
	results for every	Dyadinamic c						
	chapter	Interferential						
			cy currents (Short	t currents)				
			ous electrical nerv					
		Therapeutic u	ltrasound					
		Low level las						

			Low frequerShock wave	cy electromagnetic fie therapy	ld			
			Practical lessons: Introduction to different therapeutic physical modalities					
13	Interconn between s		There are some interconr and rehabilitation.	nections with mandator	y subject Physical	medicine		
14.	Descriptions subject's and work	 and renabilitation. escription of the bject's study independent study by using textbooks. independent study by using textbooks. 						
15.	15. Total available time frame 30 classes 15. 15 classes - theoretical course 15. 15 classes - theoretical course 15. 15 classes - home individual learning							
16.	Forms of activities	teaching	16.1.	Lessons – theoretica hours	al lessons,	5		
			16.2.	Practical lessons (la auditory), seminars, hours		10		
			16.3.	Practice: hours		/		
	Other for	ms of	17.1.	Project tasks: hours		/		
17.	activities		17.2.	Individual tasks: hours		/		
18	Requiren signature Methods		17.3. The student is required to In order to get a signature theoretical course.	•	the planned activit			
	19.1.	Tests: po			Continual assess 1 written (min – 1 18-30 points			
	19.2.	Seminar points	paper/project, written and	r/project, written and oral presentation: 1 Seminar paper/proj (min – max): 36-60 points				
19.3. Final exam: points 1 Final test points 19.3. Final exam: points 1 Final test points The student is achieve a min expected point		1 Final test point they have not pas continual check)	· · · ·					
		The student is ob achieve a minimu expected points. I the exam is not co	um of the In contrast,					

	19.4	Active p	articipation			Theoretical cou max):	urse (min–
						6-10 points	
						Attending the the the sons 51% -60% 6 pc	
						61% -70% 7 pc	
						71% -80% 8 pc 81% - 90% 9 p	
						91% - 100% 10	
						The grade in th is given accord	
						grading table, a	-
						basis of the sur	
						obtained in all activities.	of the
20	Grading	criteria (p	oints/grade)		Up to 59 points	5 (five) (F)
	_	_			From 60 to 68 points	6 (six)	
					From 69 to 76 points From 77 to 84 points	7 (sever 8 (eight	, , ,
					From 85 to 92 points	9 (nine	, , ,
				F	rom 93 to 100 points	10 (ten) (A)
21.	Methods teaching		ring the quality	of the	Student's anonymou and teaching stuff w education.		
	Literatu	·e					
		Mandato	ry literature				
		Number	Autho	r	Title	Publisher	Year
		1.	Braddom R.		Physical Medicine and Rehabilitation.	New York: Elsivier	2011
22.	22.1.	2.	De Lisa J.		DeLisas' Physical Medicine and Rehabilitation. Principles and Practice	Philadelphia: LWW	2011
		Addition	al literature			I	
		Number	Autho	r	Title	Publisher	year
	22.2.	1.	Nikolic-Dimitr	ova E	Exercise therapy (Kinesitherapy), Physical Medicine and Rehabilitation	Skopje: Laserjet	2011

	2.	Teaching materials on English for students prepared by the faculty

Numb	oer:37 achment 3	Integrated cycle of studies – Subject program				
1.	Subject	BALNEOCLIMATOTHERAPY				
1. 2.	Code	MEDI 37				
<u>2.</u> 3.		General Medicine				
	Study program					
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Faculty of Medicine, Department of Physical Medicine and Rehabilitation				
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year V Semester IX				
7	ECTS credits	1				
8.	Professor (when more	Associate Prof. Biljana Mitrevska, MD, PhD				
	professors, responsible professor is assigned)					
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Requirement for the ninth semester fulfilled				
11.	Subject program goals (competences) and study results:	 Teaching goals: To get knowledge of the natural sources of some physical agents (sun, sea, mineral water, peloids); To get knowledge of the methods of treatment in balneoclimatotherapy To get knowledge with the mineral waters, species, their effects on the patients and their application To have the ability to apply mineral water in the treatment of the diseased and the injured To get to know the role of climatotherapy in the treatment To become familiar with peloidotherapy, her activity and application To know about thalassotherapy 				
12.	Subject content in details by chapters and units, with study results for every chapter	 Mineral waters, classification, mechanism of action, methods of application Peloidotherapy, peloid forms, their deposit, preparation and regeneration Physico-chemical properties of peloid, methods and techniques for application Climatotherapy, climatic factors, climate conditions and their effects on the body Thalassotherapy, coastal climate, sea water and its effects on the body Heliotherapy 				

			Inhalation therapySpa treatments in Macedonia					
13	Interconn subjects	ection between	Related to all subjects in the study program					
14.	Description subject's	on of the study and nethods in	Interactive teaching, lectures, independent assignments, home study					
15.	Total ava	ilable time frame	30 classes					
16.	Forms of teaching		16.1.	Lessons – theoretical le	essons, hours	5		
	activities			Practical lessons (laboratory, auditory), 10 seminars, team work: hours				
			16.3. 17.1.	Practice: hours				
	Other for	Other forms of activities		Project tasks: hours	roject tasks: hours			
17.			17.2.	Individual tasks: hours	dual tasks: hours			
			17.3.	Studying at home: hour	rs	8		
18	Requirem	nents for	The student	is required to actively fo	llow all of the plann	ed		
	signature		activities.		-			
			In order to g	get a signature, a student	is required to attend	the		
			theoretical of	classes and to get a minin	lasses and to get a minimum points.			
19	Methods	of assessment						
	19.1.	Tests: points			Continual assessment			
				min-max		18-30 points		
	19.2.	Seminar paper/pro	oject, written	and oral presentation:	oral presentation: 1 seminar paper/p. points Min-max			
	19.3.	Final exam: point	n: points 1 Fin they 1 contin The s achie exped			Final test points 18-30 (if hey have not passed the ontinuous check)		
					The student is obliged to achieve a minimum of the expected points. In contrast, the exam is not considered.			
	19.4	Active participation	ation		Theoretical course min – max 6-10 Attending the theoretical			
		lessons 51% -60% 6 61% -70% 7 71% -80% 8 81% - 90% 9			points points points points			
			The grade for the subject is formed according to the					

			rating table, based on the points from all the activities, the continuous checks and the final exam.					
20	Grading	criteria (points/gra	de)	Up to 59 points	5 (five) (F)			
	(Formage (1))			From 60 to 68 points	(six) (E)			
				From 69 to 76 points				
				From 77 to 84 points 8 (eig				
				From 85 to 92 points	9 (nine) (
				From 93 to 100 points	10 (ten) (A)			
21.	the teach	thods of monitoring the quality of teaching processStudent anonymous evaluation of the subjec teachers and collaborators participating in the						
	Literatu							
		Mandatory literat	ture					
		Number	Author	Title	Publisher	Year		
		1.	Braddom R.	Physical Medicine New York: Elsivi and Rehabilitation.		2011		
	22.1.	2.	De Lisa J.	DeLisas` Physical Medicine and Rehabilitation. Principles and Practice	Philadelphia: LWW	2011		
		Additional literature						
22.		Number	Author	Title	Publisher	year		
	22.2.	1.	Nikolik- Dimitrova E. Mitrevska B, Koevska V	Balneoclimatotherapy	Skopje: UKIM, Medical Faculty	2021		
		2.	Nikolik- Dimitrova E	Basics of Physical Therapy	Skopje: Laser Jet, RM	2011		
		3.	Mihajlovik V	Physical Therapy	Rijeka: Obodsko slovo	2002		

Numb							
Atta	ichment 3	Integrated cycle of studies – Subject program					
1.	Subject	FOOD SAFETY AND HEALTH RISKS					
2.	Code		MEDI 38				
3.	Study program	General Medicine					
4.	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,					
	institute, chair,	Department of Hygiene					
	department)						
5.	Degree of education	Integrated 6-year studies					
	(first, second, third						
	cycle)		I A				
6.	Academic	Year	Third	Semester	Fifth (V)		
_	year/semester	1	(III)				
7	ECTS credits						
8.	Professor (when more	Prof. D-r Gordana Ristov	ska, PhD,	MD			
	professors, responsible						
•	professor is assigned)	T 1' 1					
9.	Language of the study	English					
	Preconditions for	Passed exam in hygiene					
10.	attending the classes						
	and taking the subject's exam						
11.	Subject program goals	Adaption of the knowled	a chille	and basic n	ringinles for food		
11.	(competences) and	Adoption of the knowledge, skills, and basic principles for food contaminants, food additives, genetically modified food, measures and					
	study results:	systems for early detection					
	study results.						
		climate change and new emerging food borne diseases.					
12.	Subject content in	Theoretical course:					
	details by chapters and	 Microbiological contaminants in food, analysis of outbreaks caused 					
	units, with study results	by food contamin					
	for every chapter	 Chemical agents in food, chronic exposure and effects, incidents 					
		with food contaminated with chemicals					
		Genetically modified food and expected effects in humans					
		Food allergy and food intolerance					
		 New emerging food borne diseases and public health Practical teaching: Visit and introduction to food safety testing laboratories at the Institute of Public Health with emphasis on microbiological testing, 					
		 testing of contaminants, additives, testing of food contact materials. Seminar work: analysis of cases of unsafe food that represented a regional or global threat to public health 					
13	Interconnection	regional or global threat to public health.					
15	between subjects	Related to all subjects in the study program					
14.	Description of the	Lecturing, exercises/semin	nars				
17.	subject's study and		1010				
	working methods in						
	details						
15.	Total available time	30 hours					
	frame						
	Irame						

16. Forms of teaching 16.1. Lessons – theoretical le				retical lessons, hours	5			
	activi		16.2.	Practical lesson auditory), semi- hours	ns (laboratory, nars, team work:	10		
			16.3.	Practice: hours				
	Other	· forms of	17.1.	Project tasks: h	ours			
17.	activit	ties	17.2.	Individual tasks				
			17.3.	Studying at hor	me: hours	15		
18	Requi signat	irements for ure	Conditional cr The student m to obtain signa Theoretical co Practical cours	iteria: ust participate at ature. urse	the theoretical and prac points min max 10 - 20 10 - 20	ctical lessons in order		
19	Meth	ods of assessment						
	19.1.	Tests: points	/					
	19.2.	Seminar paper/project, written and oral presentation: points	Seminar work					
	19.3.	Final exam:	Oral exam points					
		points			min max			
20		•, •	Lin t	a 50 mainta	15 - 25	5 (frug) (E)		
20		ing criteria s/grade)	Up to 59 points 5 (five) (F) From 60 to 68 points 6 (six) (E)					
	(point	s/grade)		o 76 points		$\frac{0(SIX)(L)}{7(\text{seven})(D)}$		
				o 84 points		8 (eight) (C)		
				o 92 points		9 (nine) (B)		
			From 93 to	100 points		10 (ten) (A)		
21.	the qu	ods of monitoring tality of the ing process		tudent's evaluation e educational actional	on of the subject, teache ivities.	ers and collaborators		
	Litera	iture						
		Mandatory litera	ture					
		Number	Author	Title	Publisher	Year		
22.		1.	Ray B, Bhunia A,	Fundamental food microbiology	Abingdon: Taylor& Francis Group	2008		
	22.1.	2.	World Health Organization	The burden of foodborne diseases in WHO European Region	WHO Regional Office for Europe	2016		

	3.	Food and Agriculture Organization	Climate change: Unpacking the burden on	FAO	2020
	Additional literatur	e	food safety.		
	Number	Author	Title	Publisher	year
	1.	Kochubovski M, Ristovska G, Spiroski I, Petrova A.	Manual for hygiene and environmental health	Skopje, Faculty of Medicine	2021
22.2.	2.	WHO Regional Office for Europe	A healthy environment in the WHO European Region: why it matters and what steps we can take to improve health.	WHO Regional Office for Europe; Copenhagen	2023

er:39						
chment 3						
Subject	OBESITY AND PUBLIC	OBESITY AND PUBLIC HEALTH				
Code	MEDI 39					
Study program	General Medicine					
Institution (unit, institute,	Ss. Cyril and Methodius Ur	niversity in	Skopje, Faculty	of Medicine,		
chair, department)	Department of of Nutrition	at the Instit	tute of Public He	alth		
Degree of education (first,	Integrated 6-year studies					
second, third cycle)						
Academic year/semester	Year	Third	Semester	Fifth (V)		
		(III)				
ECTS credits	1					
Professor (when more	Igor Spiroski, MD, PhD					
professors, responsible						
professor is assigned)						
Language of the study	English					
Preconditions for attending	Precondition for attending	the classes:	passed exam of	Hygiene		
the classes and taking the	Student must fulfill all give	n assignme	nts before taking	, the exam.		
subject's exam						
Subject program goals	After completing the program, the student will gain specific					
(competences) and study						
results:	for occurrence of non-com	municable d	liseases (NCDs).			
	chment 3 Subject Code Study program Institution (unit, institute, chair, department) Degree of education (first, second, third cycle) Academic year/semester ECTS credits Professor (when more professors, responsible professor is assigned) Language of the study Preconditions for attending the classes and taking the subject's exam Subject program goals (competences) and study	chment 3Integrated cycle of studiesSubjectOBESITY AND PUBLICCodeMEDI 39Study programGeneral MedicineInstitution (unit, institute, chair, department)Ss. Cyril and Methodius Undepartment of of NutritionDegree of education (first, second, third cycle)Integrated 6-year studiesAcademic year/semesterYearECTS credits1Professor (when more professors, responsible professor is assigned)Igor Spiroski, MD, PhDLanguage of the studyEnglishPreconditions for attending the classes and taking the subject's examPrecondition for attending Student must fulfill all givesSubject program goals (competences) and studyAfter completing the program	chment 3Integrated cycle of studies – SubjectSubjectOBESITY AND PUBLIC HEALTHCodeMEDI 39Study programGeneral MedicineInstitution (unit, institute, chair, department)Ss. Cyril and Methodius University in Department of of Nutrition at the InstitDegree of education (first, second, third cycle)Integrated 6-year studiesAcademic year/semesterYearThird (III)ECTS credits1Professor (when more professors, responsible professor is assigned)Igor Spiroski, MD, PhDLanguage of the studyEnglishPreconditions for attending subject's examPrecondition for attending the classes: Student must fulfill all given assignmeSubject program goals (competences) and studyAfter completing the program, the stude knowledge related to public health asp	chment 3Integrated cycle of studies – Subject programSubjectOBESITY AND PUBLIC HEALTHCodeMEDI 39Study programGeneral MedicineInstitution (unit, institute, chair, department)Ss. Cyril and Methodius University in Skopje, Faculty Department of of Nutrition at the Institute of Public HeDegree of education (first, second, third cycle)Integrated 6-year studiesAcademic year/semesterYearThird (III)ECTS credits1Professor (when more professors, responsible professor is assigned)Igor Spiroski, MD, PhDLanguage of the studyEnglishPreconditions for attending the classes and taking the subject's examPrecondition for attending the classes: passed exam of Student must fulfill all given assignments before taking knowledge related to public health aspects of obesity as		

			The student w	ill gain skills in:		
12.	by chapte	ontent in details rs and units, with ılts for every	 Measurements to prove existence of overweight and obesity; Measurements of body composition; Influence of nutrition for obesity; Influence of environment and lifestyle for obesity; Burden of obesity for healthcare system; Communication related to obesity; Creation of evidence based policy for obesity; Public health interventions to reduce the risks of obesity. Define and classify obesity in children and adults – cut-offs; Use tool for defining and classifying of obesity – tools and softwares; Assess risks for occurrence obesity related to nutrition, environment and lifestyle – family and environment burden; Acquire knowledge regarding body composition and health risks – methods of assessment; Assess the public health risk related to obesity – steps for performing; Explore the public health interventions for reducing the prevalence of obesity – review the evidence. 			y; <u>Cobesity.</u> – cut-offs; tools and rition, ent burden; and health steps for
10	T /	· • • •				
13	Interconn subjects	ection between	Related to all s	subjects in the study program	m	
14.	Description study and methods i		trends on the s Practical cours seminars, exer analysis of cas Individual: dis	active teaching, group work subject. se: rcises, tools for assessment o	of risks, simula nd analysis, co	tions, nsultations
15.	Total avai	ilable time frame	30 teaching ho		says, project ta	5K5.
16.		teaching activities	16.1.	Lessons – theoretical less	ons, hours	5
		C C	16.2. 16.3.	Practical lessons (laborate auditory), seminars, team Practice: hours	ory,	10
	Other for	ms of activities	17.1.	Project tasks: hours		6
17.			17.1.	Individual tasks: hours		4
			17.3.	Studying at home: hours		5
18	Requirem	ents for signature				
19		of assessment	~ ~ ~	-		
	19.1.	Tests: points				40
	19.2.	Seminar paper/pro	ject, written and	l oral presentation: points		20
	19.3.	Final exam: points				40
20	Grading c	riteria (points/grad	le)	Up to 59 points		5 (five) (F)

				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points	7	$\frac{0(\text{six})(\text{L})}{(\text{seven})(\text{D})}$
				From 77 to 84 points		$\frac{(\text{seven})(D)}{8 \text{ (eight) (C)}}$
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21.	Methods	of monitoring the c	uality of the	Students' evaluation for t	he course conte	
	teaching		[teachers' performance		
	Literatu					
		Mandatory literat	ture			
		Number	Author	Title	Publisher	Year
		1.	Lobstein T, Brinsden H.	Obesity: missing the 2025 global targets	World Obesity Federation	2020
	22.1.	2.	Moini J, Ahangari R, Miller C, Samsam M.	Global health complications of obesity	New York: Elsevier	2020
		3.	De Bruyne L, Pinna K.	Nutrition for health and health care	Boston: Cengage	2020
		Additional literat	ure			
		Number	Author	Title	Publisher	year
22.		1.	Institute of Public Health	Dietary guidelines for the population of the Republic of Macedonia	IPH	2014
		2.	Kochubovski M, Ristovska G, Spiroski I, Petrova A.	Practicum of Hygiene and environmental health	UKIM Faculty of Medicine	2021
	22.2.					
		3.	World Health Organization	Monitoring and restricting digital marketing of unhealthy products to children and adolescents	WHO	2019
		4.	World Health Organization	Report of the commission on ending childhood obesity	WHO	2016

Atta	achment 3		cycle of studies – Sul		
1.	Subject		LS AND BASIC IN	AESTHETIC	SURGERY
2.	Code	MEDI 40			
3.	Study program	General Medicine			
4.	Institution (unit, institute,	Ss. Cyril and Methodius University in Skopje, Faculty of			
	chair, department)	Medicine, D	Department of surgery		
5.	Degree of education (first,	Integrated 6	-year study		
	second, third cycle)				
6.	Academic year/semester	Year	Fifth (V)	Semester	Tenth (X)
7	ECTS credits	1	· · ·		
8.	Professor (when more	Prof. Smilja	Gjorgova Tudzarova	, PhD, MD	
	professors, responsible				
	professor is assigned)				
9.	Language of the study	English			
	Preconditions for attending the	Passed exan	n Surgery		
10.	classes and taking the subject's				
	exam				
11.	Subject program goals	Students to	become successful pla	astic and recons	tructive and
	(competences) and study	aesthetic sur	rgeons		
	results:				
12.	Subject content in details by	Theoretical	course: To inroduced	the students wi	th the :
	chapters and units, with study	• Bas	ic Principles of Aesth	etic Surgery	
	results for every chapter		ic distinctions betwee		structive and
			rosurgery		
			ic Skills		
				6	
		• Bas	ic of the surgical kits	for suture	
		D 1			
			urse: working in small	l operation thea	tre one day
		surgery und	er supervizor		
12	T-4	D 1 4 1 4	11		
13	Interconnection between	Related to a	ll subjects in the study	y program	
14	subjects	Tutono otivno d			
14.	Description of the subject's study and working methods in		eaching, lectures, pra		
	details	project assig	gnments, independent	assignments, m	one study
15.	Total available time frame	30 hours			
16.	Forms of teaching activities	16.1.	Lessons – theoretic	allessons	5
10.	- or my or reaching activities	10.1.	hours		
		16.2.	Practical lessons (la	aboratory	10
		10.2.	auditory), seminars		
		hours			
		16.3.	Practice: hours		1.
	Other forms of activities	17.1.	Project tasks: hours		5
17.		17.2.	Individual tasks: ho		- /
		17.2.	Studying at home:		10
18	Dequirements for signature	17.5.	Studying at nome:	nouis	10
	Requirements for signature Methods of assessment				
19				There is a 1	
	19.1. Tests: points			There is only	oral exam

	19.2.	Seminar paper/project, points	Students are ass a seminar work	•		
	19.3.	Final exam: points				/
20	Grading of	criteria (points/grade)		Up to 59 points		5 (five) (F)
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		(seven) (D)
				From 77 to 84 points		8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
				rom 93 to 100 points		10 (ten) (A)
21.		of monitoring the qualit	y of the	Evaluation two way	S	
	teaching	<u> </u>				
	Literatu	re				
		Mandatory literature				
		Number	Author	Title	Publisher	Year
22.	22.1.	1.	Neligan P, Matarasso PR	Plastic Surgery I – IV Vol.	New York: Elsevier	2018
22.		Additional literature				
		Number	Author	Title	Publisher	year
	22.2.	1.	Townsend CM, Beauchamp D.	Sabiston textbook of surgery	New York: Saunders	2008

N	
Number:41	

Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	AESTH	AESTHETIC SURGERY – ADVANCED TRENDS			
2.	Code	MEDI 4	11			
3.	Study program	General	medicine			
4.	Institution (unit,	Ss. Cyri	l and Methodius U	niversity in Skopje, Fact	ulty of Medicine,	
	institute, chair, department)	Departm	nent of Surgery			
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies				
6.	Academic year/semester	Year	Fifth (V)	Semester	Tenth (X)	
7	ECTS credits					
8.	Professor (when more professors, responsible professor is assigned)	Prof. Sn	nilja Tudjarova Gje	orgova, PhD, MD		
9.	Language of the study	English				
10.	Preconditions for attending the classes and taking the subject's exam	Filled co	ondition for X sem	ester		

11.	Subject pr (competer study resu		Students to b	ecome successf	ful surgeons	
12.		chapters and study results	Blepharoplas Lipofilling fa surgery, Abd Surgery.	l the students w sty, Rhinoplasty aciei et corporis	r, Facelifting, , Liposuctio f rachioplasty,	al aproaches for: TGL, Neck lifting, faciei et corporis, Breast Thight lifting, Transgender
13	Interconn between s		Related to all	l subjects in the	study progra	m
14.	Description subject's s working n details	study and	Interactive lectures, and practical application of basic surgery skills			ion of basic surgery skills
15.	Total avai frame	lable time	30 hours			
16.	Forms of t activities	teaching	16.1.	Lessons – theo lessons, hours		10
			16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours		10
			16.3.	Practice: hours		5
	Other for	ms of	17.1.	Project tasks:		
17.	activities	-	17.2. 17.3.	Individual tas		
18	Requirem signature	ents for		Studying at ho t on 51% of all		
19		of assessment				
	19.1.	Tests: points			There is on	ly oral exam
	19.2.	Seminar paper/p presentation: po		n and oral		re dedicated during the course, including no points, d)
	19.3.	Final exam: point	nts			ly oral exam
20	Grading c	riteria		Jp to 59 points		5 (five) (F)
	(points/gr	ade)		60 to 68 points		6 (six) (E)
				69 to 76 points		$\frac{7 \text{ (seven) (D)}}{2 (1 + 1) (C)}$
				77 to 84 points 85 to 92 points		8 (eight) (C) 9 (nine) (B)
				3 to 100 points		10 (ten) (A)
21.		of monitoring the ng process		Student anony		tion of the subject, the participating in the teaching

		re Mandatory literature							
		Number	Author	Title	Publisher	Year			
22.	22.1.	1.	Neligan P, Matarasso PR	Plastic Surgery I – IV Vol.	New York: Elsevier	2018			
22.		Additional liter	rature						
		Number	Author	Title	Publisher	year			
	22.2.	1.	Townsend CM, Beauchamp D.	Sabiston textbook of surgery	New York: Saunders	2008			

	Number:42 Attachment 3 Integrated cycle of studies – Subject program						
1.	Subject	FORENSIC TRAUMATOLOGY					
2.	Code	MEDI 42					
3.	Study program	General Medic	zine				
4.	Institution (unit,	Ss. Cvril and N	Aethodius Uni	versitv in Skor	oje, Faculty of Medicine,		
-	institute, chair,	Department of		······			
	department)	1	0.1				
5.	Degree of	Integrated 6-ye	ear studies				
	education (first,						
	second, third cycle)						
6.	Academic	Year	Fifth (V)	Semester	Tenth (X)		
	year/semester						
7	ECTS credits	1					
8.	Professor (when	Prof. dr. Vikto	r Kamiloski, l	PhD, MD			
	more professors,						
	responsible						
	professor is assigned)						
9.	Language of the	English					
9.	study	English					
	Preconditions for	Filled conditio	n for X semes	ter			
	attending the	i med conditio	in for <i>i</i> to series				
10.	classes and taking						
	the subject's exam						
11.	Subject program	The goal of the	e subject prog	ram in the subj	ect Forensic Traumatology is to		
	goals	enable students to acquire in-depth knowledge of expertise in the field of					
	(competences) and	traumatology that is performed for the needs of court proceedings, as well					
	study results:		as with specific skills for applying that knowledge in practice. Special tasks				
		of this program					
					v identify and critically analyze		
					he needs of court proceedings.		
		• to dev	elop skills for	applying the a	cquired knowledge in practice.		

12.	Subject content in details by chapters and units, with	fo To achiev theoretica their prac The conte 1. C	o independently perform a medical expertise or the needs of the medical expertise ve these goals and tasks, the subject p al aspects of the traumatological exper- tical application. Ent of this elective includes three sect General part: Introduction and concep- xpertise. Acquaintance of medical ex-	brogram will process the ertise, and then will focus on cions: bt. The history of medical experts with different forms of				
	study results for	non-material damage. Expert and expertise. Medical qualification						
	every chapter	 of bodily injuries. Medical-traumatological examination of the injured in a traffic accident. Objectification of the resulting permanent consequences with trauma point systems (scores). The role of the traumatologist in the examination of physical pain, fear, aesthetic impairment and daily activities. The role of the traumatologist in insurance claims. 2. Special part: Forensic-traumatological expertise of the musculoskeletal system-upper and lower extremity; Injuries of the spinal column and pelvis in forensic traumatological examinations; Craniocerebral injuries and injuries to the facial region in expert examinations; Expertise on thoracic and abdominal injuries; Expertise on the consequences of skin injuries and burns. 3. Practicum on measurement of range of motion of joints (ROM) and objectification of disability. Measurement of upper (shoulder, elbow, wrist) and lower limb (hip, knee, ankle) movements, spine (neck and lower back) and pelvis. Acquaintance with the basic principles of forensic-traumatological expertise. Formulation and setting of the same and the role of the expert in preparation of the expert's evaluation report and opinion 						
13	Interconnection between subjects	Related to	all subjects in the study program					
14.	Description of the subject's study and working methods in details		e lectures, reviewing of scientific lite on of seminar paper	erature, independent				
15.	Total available time frame	30 hours						
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	5				
		16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours	10				
	Oth on former of	16.3. Practice: hours						
17.	Other forms of activities	17.1.	Project tasks: hours					
1/.	activities	17.2.	Individual tasks: hours	15				
10	Deauineur 4- 6-	17.3.	Studying at home: hours	15				
18	Requirements for signature		ed practical lessons and accepted sen	ninar paper				
19	Methods of assessme	ent						

	19.1.	Tests: poi	nts			40-60	
	19.2.		oaper/project, on: points	written and oral		20-40	
	19.3.	Final exa	m: points				
20	Grading	criteria (po	ints/grade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points		9 (nine) (B)	
				From 93 to		10 (ten) (A)	
21.		of monitor	0			of the subject and the teachers	
	quality of the teaching processand associates who participate in teachingLiterature						
	Litter atur	-					
			y literature	T: 1	D 11.1	NZ	
		Number	Author	Title	Publisher	Year	
		1.	Browner	Seletal trauma.	Philadelphia:	2008	
			BD,	4th edition.	Elsevier		
			Jupiter JB, Levine		Science - Saunders		
	22.1.		AM,		Saunders		
			Trafton				
			PG				
22.		2.	Lerner A,	Severe Injuries	Berlin	2007	
			Reis D,	to the Limbs:	Heidelberg		
			Soudry M.	Staged Treatment	New York: Springer		
		Additiona	l literature	I	1 0		
		Number	Author	Title	Publisher	Year	
		2.	European	Transport	Brussels:	2003	
	22.2.		Transport	safety	European		
			Safety	performance in	Transport		
			Council.	the EU: a statistical	Safety Counc		
				overview.	Counc		

Numł							
	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	WRIST AND HAND SURGERY					
2.	Code	MEDI 43					
3.	Study program	General medicine					
4.	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,					
	institute, chair,	Department of Surgery					
	department)						
5.	Degree of education	Integrated 6-year studies					
	(first, second, third						
6	cycle)						
6.	Academic year/semester	Year Fifth (V) Semester Tenth (X)					
7	ECTS credits						
8.	Professor (when more	Prof. dr. Viktor Kamiloski, PhD, MD					
	professors, responsible						
0	professor is assigned)	Enalish					
9.	Language of the study	English					
	Preconditions for	Filled condition for X semester					
10.	attending the classes and						
	taking the subject's exam						
11.	Subject program goals	Introduction to the wrist and hand surgery					
11.	(competences) and study	Introduction to the wrist and hand surgery					
	results:						
12.	Subject content in	Content of the subject program:					
12.	details by chapters and	 historical perspectives of the arm and hand injuries, 					
	units, with study results	epidemiology - applied surgical anatomy of the arm and					
	for every chapter	hand. Biomechanics and kinematics of the wrist. Graphic					
		representation and photographs of surgical approaches					
		• diagnostic procedures for wrist and hand injuries (X-ray, CT,					
		MRI, ultrasound, EMG, etc.),					
		• organization of an operating room for hand surgery, regional					
		block anesthesia, RIVA and local anesthesia with technique,					
		• distal radius fractures, classification systems - tests to assess					
		the outcome of distal radius fractures (radiological,					
		functional and subjective),					
		 surgical treatment of distal radius fractures, 					
		 malunion of distal radius fractures and corrective 					
		osteotomies. Treatment of complications of distal radius					
		fractures,					
		• wrist arthroscopy,					
		 -soft tissue associated wrist injuries (TFCC, SLIO, LTIO) 					
		• injuries of the distal radioulnar joint. Surgical treatment and					
		operative techniques,					
		• fractures and dislocations of carpal bones (Dg and treatment					
		of fractures and nonunion of the scaphoid bone. Dg and					
		treatment of lunate dislocations. Dislocations and instability					
		of the carpus DISI, VISI), fractures of the metacorrol honor and rholonges of the hond					
		• fractures of the metacarpal bones and phalanges of the hand,					
		diagnosis, indications, surgical treatment,					

13	Intercom	ection between	 complex Dupuyta rheumat surgical modern hand inj soft tiss and repl - infecti 	compressive neuropathies of the median nerve, ulnar nerve, complex regional pain syndrome, diagnosis and treatment, Dupuytren's and other contractures, osteoarthritis, rheumatoid arthritis of the hand, possibilities for corrective surgical interventions, modern rehabilitation program and exercises for wrist and hand injuries, soft tissue and tendon injuries of the hand with reconstruction and replantation, - infections of the arm and hand I to all subjects in the study program				
13	subjects Descriptio subject's			res, reviewing of scientific literature,	independent			
15.		ilable time	180					
16.	Forms of activities	teaching	16.1. 16.2.	Lessons – theoretical lessons, hours Practical lessons (laboratory, auditory), seminars, team work:	s 5 10			
	Oth on for	ms of activities	16.3. 17.1.	hours Practice: hours				
17.	Other for	ms of activities	17.1. 17.2. 17.3.	Project tasks: hours Individual tasks: hours Studying at home: hours	5 5 5			
18	Requirem signature			stical lessons and accepted seminar pa	-			
19	Methods	of assessment						
	19.1.	Tests: points			40 - 60			
	19.2.	Seminar paper/j points	project, written an	d oral presentation:	20- 40			
	19.3.	Final exam: poi	nts					
20	Grading	criteria (points/g	rade)	Up to 59 points	5 (five) (F)			
				From 60 to 68 points	6 (six) (E)			
				From 69 to 76 points	7 (seven) (D)			
				From 77 to 84 points	8 (eight) (C)			
				From 85 to 92 points	9 (nine) (B)			
				From 93 to 100 points	10 (ten) (A)			
21.	Methods teaching	of monitoring the process	e quality of the	Student anonymous evaluation of the teachers and associates who par teaching	•			
22.	Literatur	e		· · · · · · · · · · · · · · · · · · ·				

		Mandatory liter	ature							
		Number Author		Title	Publisher	Year				
2	22.1.	1.	David Slutsky	Principles and practice of wrist surgery	Philadelphia: Saunders	2010				
		2.	Green et al.	Green's operative hand surgery	New York: Elsevier	2005				
		Additional literature								
		Number	Author	Title	Publisher	year				
2	22.2.	1.	Jupiter J, Ring D	AO Manual of fracture management: Hand and Wrist	New York: Thieme	2004				

Attac	hment 3	U	d cycle of studi	es –		
	1	Subject program				
1.	Subject		O-FUNCTION	AL		
			CTERISTICS		OF	
		SPERMA				
2.	Code	MEDI 44				
3.	Study Program	General M	Iedicine			
4.	Institution	Ss. Cyril	and Method	ius Uni	versity in	
	(Unit, Institute, Chair, Department)	Skopje, Fa	aculty of Medic	ine, Dep	artment of	
		Medical H	listology and E	mbryolog	gy	
5.	Degree of education	Integrated	6-year studies			
	(first, second or third cycle)					
6.	Academic year/semester	Year	Second (II)	Seme ster	Fourth (IV)	
7.	ECTS credits	1		5001	(1)	
8.	Professor (when more professors,	Ass. Prof.	Irena Kostadine	ova Petro	ova, M.D.	
	responsible professor is assigned)	PhD			,	
9.	Language of the study	English				
10.	Preconditions for attending the classes and	Passed ex	am in Histology	and Em	bryology	
	taking the subject's exam	2			5 05	
		Final exar	n: To apply for	final exa	m, student	
			has to submit seminar paper in word and			
		power poi				
11.	Subject program goals (competences) and	• Stu	dy of the struct	ural and	functional	
	study results:	cha	aracteristics of s culate			
		•	croscopic analy	sis of the	sperm	
		pop	pulation on national parations.			

12.	Subject content in details by chapters and units, with study results for every chapter Theoretical and laboratory practice classes:			 Spermatogenesis and spermiogenesis Morphologic characteristics of spermatozoa Methods for determining the concentration of sperm in the ejaculate Methods for determining the motility of sperm in the ejaculate Methods for determining the motility of sperm in the ejaculate Methods for determining the morphology of sperm in the ejaculate Deviations from normal morphofunctional characteristics of sperm and the appearance of oligozoospermia, asthenozoospermia and teratozoospermia Microscopic analysis of the sperm population on native preparations Microscopic analysis of the sperm population on dyed preparations Seminar papers/project: Selected parts of morpho-functional characteristics of 		
13.	Interconnection between s	ubiects		spermatozoa		
14.	Description of the subject's working methods in detail	s study an s	d	 Through visual presentati accentuated concept lectu goal oriented learnin interactive teaching. Through microscopic ana spermatozoa (workshop) Through seminar projects 	res, study- ag and lyses of	
15.	Total available time frame	•		30 hours		
16.	Forms of teaching	16.1.	Lectures ·	- theoretical lessons, hours	5	
	activities	16.2. 16.3.		lessons (laboratory, auditory), team work: hours hours	10	
17.	Other forms of activities	17.1.	Projects ta	asks: hours		
		17.2.		l tasks: hours	5	
		17.3.		at home learning	10	
18.	Requirement for signature	To tak The fir	te active pa nal exam is	ria for signature: articipation in all the teaching active s a combination of both seminar pa nal examination.		

				The grade for the of grades and base	ed on th	e sum of the point	nts gained in all	
19.	Metho	l of assassm	ont	activities includin	g the co	ontinual assessme	ent.	
17.	Method of assessment19.1Tests: points							
	19.2	Seminar paper/proje written and presentation points	oral					
	19.3	Final exam	:	Oral presentation The final exam is workshop and fina		bination of both	points 1 seminar paper,	,
				(power point preser one topic from the material)				
				(word document on	the san	ne topic)		
				The grade for the entire exam is obtained according to the tabl of grades and based on the sum of the points gained in all the activities including the continual assessment.				
20.		g criteria		Up to 59				ve) (F)
	(points	/ grade)		From 60 to 68 points			6 (six) (E) 7 (seven) (D) 8 (eight) (C)	
					From 69 to 76 points			
			From 77 to 84 points From 85 to 92 points					
				From 93 to 100			· · · · · · · · · · · · · · · · · · ·	en)(A)
21.	Metho	d of monitor	ring the		_	valuation of the		, , ,
		of teaching	process	collaborators in	volved i	n the educationa	l activities	
22.	Literat		r litorati	1#0				
		Mandator Number	y merall	Author		Title	Publisher	Year
		1.	Ross N	1H, Wojciech P	Histol atlas	ogy, Text and	Philadelphia: Lippincott, Williams and Wilkins	2023
	22.1. 2. Junqu			ira JK, Carneiro H	Basic	histology, Text and atlas	Chicago: McGraw Hill	2021
	3. 1		Moore	KL, Persaud TVN		e developing human ally oriented vology	Mumbai: Elsevier	2012
		4.	Teachi	ng materials on Engl			l by the faculty	
	22.2.	Additiona	l literatu	re				
L								

Number	Author	Title	Publisher	Year
1.	Bojovic S.	Andrologija,	Niksic:	1986
	-	plodnost i neplodnost	NIO"Univerz	
		muskarca	itetska rijec"	
2.	www.histologyguide.com	on-line learning		
		programme		
3.	www.biolucida.com	on-line learning		
		programme		

	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	MANAGEME	NT OF CO	DRONAVIRUS DISE	ASE 2019 (COVID-19) IN		
	-	HOSPITALIZ	HOSPITALIZED PATIENTS				
2.	Code	MEDI 45					
3.	Study program	General Medici	ne				
4.	Institution (unit,	Ss. Cyril and M	ethodius U	niversity in Skopje, Fa	culty of Medicine,		
	institute, chair,	Department of	Infectology	1			
	department)						
5.	Degree of education	Integrated 6-year	ar studies				
	(first, second, third						
	cycle)			<u> </u>			
6.	Academic	Year	Fourth	Semester	Seventh(VII)		
7	year/semester	1	(IV)				
7	ECTS credits	1	Vinte Circ				
8.	Professor (when	Associate Prof.	Krsto Groz	danovski, PhD, MD			
	more professors, responsible professor						
	is assigned)						
9.	Language of the	English					
	study	8					
	Preconditions for	Criteria meet fo	r enrollme	nt of the seventh semes	ster.		
10.	attending the classes	In order to take	the final ex	xam, the student should	l obtain the minimum		
10.	and taking the	points from the	oretical cou	urse, pracical lessons a	nd seminar.		
	subject's exam						
11.	Subject program	Studying the ch	aracteristic	s and possibilities of tr	eating COVID-19 in		
	goals (competences)	hospital patient	s with a sev	vere/critical form of th	e disease		
	and study results:						
12.	Subject content in	Theoretical tead	U				
	details by chapters				racteristics of patients with		
	and units, with study			ated with a severe clin			
	results for every				ilities for specific therapy		
	chapter	·	·	with COVID-19	1		
			omplication	oxia, acute respiratory o	distress syndrome and		
				ns regnant women			
		- wianage	ement of pl				

			• Acce	ess to patients wit	h HIV		
					ent of patients with COVID-	19	
			Seminar: Selected parts of SARS-CoV-2 infection				
13	Intercon between	nection subjects	Related to all subjects in the study program				
14.		tion of the	Interactive te	eaching during lec	tures and practical trainings	, seminars	
		s study and					
		g methods in					
15.	details		30 hours				
15.	frame	ailable time	50 hours				
16.		fteaching	16.1.	Lessons – theo	oretical lessons, hours	5 hours	
10,	activitie		16.2.		ns (laboratory, auditory),	5 hours	
	ucci (1010)	5	10.2.	seminars, team		5 hours	
			16.3.	Practice: hours			
	Other fo	orms of	17.1.	Project tasks: h	nours		
17.	activitie	S	17.2.	Individual task	ts: hours		
			17.3.	Studying at ho	me: hours	15 hours	
18	Require	ments for	Obligatory				
	signatur	·e	In order to ge	et a professor's sig	gnature the students has to at		
				studies, as well a	as seminars and to gain mining	mum points.	
19	Methods of assessment		-		r		
	19.1.	Tests: points					
	19.2.		er/project, writt	ten and oral		min-	
	presentation:		points		max		
						oints 25-	
					30		
		Active partici	pation			min-	
		i i i i i i i i i i i i i i i i i i i	.p.mon		max		
					Theoretic lectures*	points	
					10-20		
					Practical lectures**	points	
					10-20		
					* mussion as in the theoretics	1.000	
					* presence in the theoretica 51%-60% 1 point	ii course	
					61%-70% 1,5 points		
					71%-85% 2 points		
					86%-100% 2,5 points		
					· *		
	19.3.	Final exam: p	points			18-	
•	a "	•			30		
20	Grading	g criteria (poin	ts/grade)	Up to 59		5 (five) (F)	
				points From 60 to		6 (rir) (T)	
				68 points		6 (six) (E)	
				From 69 to		7 (seven) (D)	
					s		

				From 77 to 84 points		8 (eight) (C)		
				From 85 to 92 points		9 (nine) (B)		
				From 93 to 100 points		10 (ten) (A)		
21.		ods of monitorin teaching proces		well as evalua	tudent evaluation about the sub tion of the professors and assis subject studies.			
	Litera	ture						
		Mandatory lite	erature					
		Number	Author	Title	Publisher	Year		
		1.	Cohen J, Powderly WG, Opal SM.	Infectious Diseases, 4 th edition	New York: Elsevier	2017		
	22.1.	2.	Bennett JE, Dolin R, Blaser MJ	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases	New York: Elsevier	2019		
		Additional literature						
22.		Numbe	Author	Title	Publisher	Year		
		1.	World Health Organization	Clinical management of COVID- 19	World Health Organization	2020		
	22.2.	1.	Centers for Disease Control and Prevention	2019 Novel coronavirus, Wuhan, China. Information for Healthcare Professionals	CDC	2020		
		2.	Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL	Harrison's Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022		

	per:46						
Atta	achment 3	Integrated cy	cle of studies –	Subject prog	ram		
1.	Subject	COVID 19	AND IN	IFLUENZA	SIMILARIT	IES AND	
		DIFFERENC	ES				
2.	Code	MEDI 46					
3.	Study program	General Media	General Medicine				
4.	Institution (unit,	Ss. Cyril and M	Aethodius Univ	ersity in Skop	je, Faculty of M	edicine,	
	institute, chair,	Department of	Infectology		•		
	department)	-					
5.	Degree of education	Integrated 6-ye	ear studies				
	(first, second, third						
	cycle)						
6.	Academic	Year	Fourth (IV)	Semester		Seventh(VII)	
	year/semester						
7	ECTS credits	1					
8.	Professor (when more	Associate Prof	. Marija Cvetar	novska PhD, N	1D		
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for		or enrollment o				
10.	attending the classes		hould obtain the				
10.	and taking the	points from th	ſ .				
	subject's exam						
11.	Subject program goals	•	•		rities and differe		
	(competences) and	betwe	en two viral dis	eases, Covid a	nd Influenza, in	order to	
	study results:	diagno	ose them more	easily.			
		Demo	nstration and pi	actical work c	of cases with Inf	luenza and	
			•		e, diagnosis and		
		•	iseases.	1	, 8	15	
12.	Subject content in	Theoretical c					
14.	details by chapters and			viological cha	racteristics of	Covid and	
	units, with study		nza similarities	•		Covid and	
	results for every					C	
	chapter		-	hogenetic mec	hanisms in the c	occurrence of	
			iseases				
		• Huma	n immune respo	onse and susce	ptibility to infec	ction	
		Histor	ical overview o	of epidemics an	nd pandemics ir	n influenza,	
		causes	and manner of	f their occurren	nce		
		Diagn	ostic protocol f	or Covid and I	nfluenza		
		-	-		viral therapy in	Covid 19	
		Possib		•			
					11	lication of	
			nomodulatory t				
			noprophylaxis ·		-		
		Preven	ntion of Covid	19 and Influen	za		
		Clinic	al characteristi	cs and severi	ty of the clinication	al picture of	
			19 and Influen		•	-	
					clinical picture		
		Factor	s ancenng me	sevency of the	ennear picture		

			• Covid 19 and Influenza - therapeutic approach Practical teaching: Treatment of patients with Influenza. Seminar: Selected parts of Covid 19 and Influenza.Practical course					
				e clinical skills and usage of the acquired the				
13	Intercon			Related to all subjects in the study program				
		subjects						
14.		tion of the	Interactive tea	aching during lectures and practical training	gs, seminars			
		s study and methods in						
15.		ailable time	30 hours					
	frame				.			
16.	8		16.1.	Lessons – theoretical lessons, hours	5 hours			
	activities	5	16.2.	Practical lessons (laboratory, auditory),	5			
				seminars, team work: hours	5			
			16.3.	Practice: hours				
. –	Other fo		17.1.	Project tasks: hours				
17.	activities	5	17.2.	Individual tasks: hours				
	18 Requirements for		17.3.	Studying at home: hours	15 hours			
	theoretic and p points.							
			theoretic and	et a professor's signature the students has to practical studies, as well as seminars and to				
19	Methods	s of assessment	theoretic and					
19			theoretic and					
19	Methods	s of assessment	theoretic and points. project, writter	practical studies, as well as seminars and to				
19	Methods 19.1.	s of assessment Tests: points Seminar paper/	theoretic and points. project, writter pints	practical studies, as well as seminars and to n and oral min-max Seminar work* 25-30 min-max Theoretic lectures* 10-20 Practical lectures** 10-20 * presence in the theoret 51%-60% 1 point 61%-70% 1,5 point	points points points points etical course ints			
19	Methods 19.1.	s of assessment Tests: points Seminar paper/presentation: points Active participa Final exam: points gcriteria	theoretic and points. project, writter oints ation	practical studies, as well as seminars and to n and oral min-max Seminar work* 25-30 min-max Theoretic lectures* 10-20 Practical lectures** 10-20 * presence in the theoretic 51%-60% 1 point	points points points points points etical course nts s			

				Fro	m 69 to 76 points		7 (seven) (D)	
					m 77 to 84 points		$\frac{7 (\text{seven}) (D)}{8 (\text{eight}) (C)}$	
					m 85 to 92 points		9 (nine) (B)	
					93 to 100 points	10 (ten) (A)		
21.	Metho	ods of monitoring	the		A	uation about the subject of		
21.		y of the teaching			Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors			
	quant	y of the teaching p	10005		ed in the subject stu		101035015	
	Litera	ture						
		Mandatory liter	ature					
		Number	Aut	hor	Title	Publisher	Year	
	22.1.	1.	Cohe Powc WG, C SN	lerly Opal	Infectious Diseases, 4 th edition	New York: Elsevier	2017	
		2.	Bennet Dolin I Blaser	λ ,	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases	New York: Elsevier	2019	
22.		3.	Centers Disease Contro Preven	e l and	2019 Novel coronavirus, Wuhan, China. Information for Healthcare Professionals	CDC	2020	
		Additional litera	ature					
		Number	Aut	hor	Title	Publisher	Year	
	77 7	2.	World Health Organiz		Clinical management of COVID-19	World Health Organization	2020	
	22.2.	3.	Loscalz Fauci A Kasper Hauser Longo Jameso	zo J, A, • D, • S, D,	Harrison's Principles of Internal Medicine 21th edition	Chicago: McGraw Hill	2022	

Numł						
	achment 3	Integrated cycle of studies – Subject program SLEEP DISORDERS AND INSOMNIA				
1.	Subject		ORDERS AND I	NSOMINIA		
2.	Code	MEDI 47 General Medicine				
3.	Study program				1 0	
4.	Institution (unit, institute,			rsity in Skopje, Fac		
	chair, department)		epartment of Depar	rtment of psychiatry	y and medical	
-		psychology				
5.	Degree of education (first,	Integrated 6	-year studies			
6	second, third cycle)	37				
6.	Academic year/semester	Year	Fourth	Semester	Eighth (VIII)	
7	FOTS l'4-	1	(IV)			
7	ECTS credits	1				
8.	Professor (when more	Prof. Nensi Manusheva, PhD, MD				
	professors, responsible					
0	professor is assigned)	F 1' 1				
9.	Language of the study	English	1 1	1		
10	Preconditions for attending	Related to a	l subjects in the stu	idy program		
10.	the classes and taking the					
	subject's exam					
11.	Subject program goals	Acquiring knowledge about sleep medicine				
	(competences) and study	 Diagnostic process of sleep disorders Classification of sleep disorders in ICD-10/ ICD-11 				
	results:					
		ICS				
				on-pharmacologica	l treatment	
			nitive behavior the	rapy for insomnia		
12.	Subject content in details by	Theoretical				
	chapters and units, with		onobiology,			
	study results for every		siology of sleep			
	chapter			ics and treatment of	f sleep diorders	
		• Poli	somnography/actig	raphy		
			sons and exercises:			
			ng detailed history			
			p diary			
				ation (e.g. ESS, etc))	
13	Interconnection between	Related to a	l subjects in the stu	ıdy program		
	subjects					
14.	Description of the subject's			eminars, Project act	tivities,	
	study and working methods	Presentation	5			
	in details					
15.	Total available time frame	30 hours			-	
16.	Forms of teaching activities	16.1.	Lessons – theoret hours	ical lessons,	5	
		16.2.	Practical lessons	(laboratory,	10	
			auditory), semina			
			hours	,		
		16.3.	Practice: hours			
	10.5. Flacuce: nours				1	

	Other for	rms of activities	17.1.	Project tasks: hours		5
17.			17.2.	Individual tasks: hou	rs	5
			17.3.	Studying at home: ho		5
18	Requiren	nents for signature	Regular atter	nding of teaching cours		
	-	-	lessons and	continuous test (minim	um 60%)	
19		of assessment			1	
	19.1.	Tests: points				/
	19.2.	Seminar paper/proj points	ect, written and	d oral presentation:		10-20
	19.3.	Final exam: points				41-80
20	Grading	criteria (points/grade	e)	Up to 59 points		5 (five) (F)
	8	u o	,	From 60 to 68		6 (six) (E)
				points		
				From 69 to 76		7 (seven) (D)
				points		
				From 77 to 84		8 (eight) (C)
				points From 85 to 92		9 (nine) (B)
				points		9 (IIIIe) (B)
				From 93 to 100	10 (ten) (A)	
				points		
21.	Methods	of monitoring the qu	ality of the	Revising knowledge	and student refle	ections.
	teaching	process		Student anonymous evaluation of the subject and		
				the teachers and asso	ciates who partic	cipate in
	Literatur	0		teaching		
	Literatur					
		Mandatory literatu		1		-
		Number	Author	Title	Publisher	Year
22.	22.1.	1.	Kaplan & Sadock	Kaplan & Sadock's Comprehensive textbook of psychiatry (vol. 1) Eight edition	Philadelphia: Lippincott & Williams	2005
		Additional literatur	·e			
		Number	Author	Title	Publisher	year
	22.2.	1.	WHO	ICD-11 (07 – Sleep-wake disorders)	WHO	2023
		2.	Manusheva N.	Authorized lectures a psychiatry and medic		t for

Numb Atta	per:48	Integrated c	vele of st	udies – Si	ibject program		
1.	Subject	IMAGING	•		v 1 0		
1.	Subject						
2.	Code		MUSCULOSKELETAL SYSTEM MEDI 48				
<u>2.</u> 3.	Study program	General Medicine					
<u> </u>	Institution (unit,	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,					
т.	institute, chair,	Department of			sity in Skopje, i	acuity of Medicine,	
	department)	Department	or Rudion	555			
5.	Degree of education	Integrated 6-year studies					
	(first, second, third cycle)						
6.	Academic year/semester	Year Fourth Semester Eighth (VIII)					
7	ECTS credits	1					
8.	Professor (when more	Prof. Violeta	Vasilevs	ka Nikodi	novska, PhD, M	D	
	professors, responsible						
	professor is assigned)						
9.	Language of the study	English					
	Preconditions for	Passed exam of Radiology. Before taking the final exam, the student should submit a seminar					
10.	attending the classes and						
	taking the subject's exam	paper in a written form and prepare a PPT presentation.					
11.	Subject program goals	Aims of the course program (competences): Student should obtain					
	(competences) and study	knowledge for sports injuries of all joints of the extremities, with its presentation on plain film, CT and MRI					
10	results:						
12.	Subject content in details	Contents of Theoretical		e prograi	n:		
	by chapters and units, with study results for			0.1 1	1.1		
	every chapter	-	-	es of the sl	noulder		
	ever y chapter		ow injurie				
				ist injuries			
				es of the h	ıp		
			e injuries				
				ot injuries			
		Practical con		tion of one	orts injuries on e	ach ioint	
			CAAIIIIId	non or spe	nto injunes on e	aon joint.	
				<u> </u>	ion with differe	ntial diagnosis	
13	Interconnection between subjects	Related to all	subjects	in the stud	ly program		
14.	Description of the	Interactive te	aching (th	neory), pra	actical exercises	, seminar paper	
	subject's study and						
	working methods in						
	details						
15.	Total available time frame	30 hours					
16.	Forms of teaching	16.1.	Lessons	- theoreti	cal lessons,	5 hours	
	activities		hours				

			16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours		Exercises 5 hours Seminars 5 hours	
	Other for	rms of activities	16.3. 17.1.	Project tasks: hours			
17.	Other Iol	rms of activities	17.1.	Individual tasks: hours			
1/.			17.2.	Studying at home: hours		15 hours	
18	Requiren	nants for		ts for signature		15 nouis	
10	signature		Conditional				
	-		In order to ge practical class number of po	get a signature, a student needs to attend theoretical, asses and seminars as well as to obtain a minimum points. I course 4-10 points			
19	Methods	of assessment					
	19.1.	Tests: points		minmax. 12 - 20			
	19.2.	Seminar paper/p points	roject, written	and oral presentation:	min max. Seminar paper points 25 - 35		
	19.3.	Final exam: poin	nts	mi			
					max. Oral exam	n points $15-25$	
20	Grading	criteria (points/gr	ade)	Up to 59 points		5 (five) (F)	
				From 60 to 68 points		6 (six) (E)	
				From 69 to 76 points		7 (seven) (D)	
				From 77 to 84 points		8 (eight) (C)	
				From 85 to 92 points From 93 to 100 points		9 (nine) (B) 10 (ten) (A)	
21.	the teach	of monitoring the ing process	e quality of	Students' anonymous ev teachers and the associa teaching process	valuation of tes participa	the subject, the	
	Literatur	·e					
		Mandatory liter	ature				
		Number	Author	Title	Publishe	er Year	
		1.	Stoller	Diagnostic Imaging	Solt Lake	2006	
22.	22.1.		DW,	Orthopedics	City:		
	22.1.		Tirman P, Bredella M, Beltran S,		AMIRSYS	S	
			Bransetter R, Blease S				

	2.	Manaster BJ, Andrews C, Crim J, Grossman J, Miller T, Petersilge C, Roberts C, Rosenberg Z, Sanders RK	Diagnostic and surgical imaging anatomy. Musculoskeletal	Solt Lake City: AMIRSYS	2006
	Additional litera	ture			
	Number	Author	Title	Publisher	Year
22.2.	1.	Shahabpour	MRI wrist and hand	Horn:	2018
		M, Isaac A,		Breitenseher	
		De Jonge		Publisher	
		М.			

Atta	ichment 3	Integrated cycle	of studies – S	Subject program		
1.	Subject	IMAGING OF	MUSCULC	SKELETAL BON	IE TUMORS	
2.	Code	MEDI 49	MEDI 49			
3.	Study program	General Medicine				
4.	Institution (unit, institute,	Ss. Cyril and Meth	Ss. Cyril and Methodius University in Skopje, Faculty of Medicine,			
	chair, department)	Department of Ra	diology		-	
5.	Degree of education (first,	Integrated 6-years	studies			
	second, third cycle)					
6.	Academic year/semester	YearFifth (V)SemesterNinth (IX)				
7	ECTS credits	1				
8.	Professor (when more	Prof. Violeta Vasilevska Nikodinovska, PhD, MD				
	professors, responsible					
	professor is assigned)					
9.	Language of the study	English				
	Preconditions for	Passed exam of Ra	•••			
10.	attending the classes and			ne student should subr		
	taking the subject's exam	· · ·		pare a PPT presentati	on.	
11.	Subject program goals	Aims of the course				
	(competences) and study			or early diagnosis of b		
	results:		• •	of bone tumors and a	according their	
		imaging presentat	ion			
12.	Subject content in details	Contents of the co		ım:		
	by chapters and units,	Theoretical cou	rse:			
	with study results for		•	sis of bone tumor		
	every chapter	• CT and	MRI in diag	nosis of bone tumors		

			 Systematic analysis of different types of bone tumors, imaging appearance, localization on the skeleton and within the bone, imaging presentation of each tumor an all imaging methods like plain film, CT and MRI Imaging guided biopsy of bone tumors Practical course: Multidisciplinary team meetings attendance with active participation Seminar paper: Case presentation with discussion of differential diagnosis.					
	Interconn subjects	ection between	Related to all other subjects					
14.	Description subject's		Interactive teaching (theory), practical exercises, seminar paper					
	Total avai frame	ilable time	30 hours	30 hours				
16.			16.1.	Lessons – theoretical lessons, hours		5 hours		
			16.2.	Practical lessons (labora auditory), seminars, tear hours	•	Exercises 5 hours Seminars 5 hours		
			16.3.	Practice: hours				
	Other for	ms of activities	17.1.	Project tasks: hours				
17.			17.2. Individual tasks: hours			151		
10	D		17.3.	Studying at home: hours		15 hours		
	Requirem signature		Conditiona In order to g practical cla number of p Theoretical	get a signature, a student n asses and seminars as well				
19		of assessment						
	19.1.	Tests: points				min max. 12 - 20		
-	19.2.	Seminar paper/p points	Seminar paper/project, written and oral presentation:			min max. aper points 25 - 35		
	19.3.	Final exam: poir	nts		Oral exan	Oral exam points 15 - 25		
20	Grading o	criteria (points/gr	ade)	Up to 59 points		5 (five) (F)		
				From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		$\frac{7 (\text{seven}) (\text{D})}{8 (\text{sight}) (\text{C})}$		
				From 77 to 84 points From 85 to 92 points		8 (eight) (C) 9 (nine) (B)		
				From 83 to 92 points From 93 to 100 points		10 (ten) (A)		

21.		of monitoring the ing process	quality of	Students' anonymous evaluation of the subject, the teachers and the associates participating in the teaching process			
	Literatu						
		Mandatory litera	ture				
		Number	Author	Title	Publisher	Year	
	22.1.	1.	Davies AM, Sundaram M, James SLJ	Imaging of bone tumors and tumor-like lesions	New York: Springer	2009	
		Additional literatu	re				
		Number	Author	Title	Publisher	year	
22.	22.2.	1.	Manaster BJ, Andrews C, Crim J, Grossman J, Miller T, Petersilge C, Roberts C, Rosenberg Z, Sanders R.K	Diagnostic and surgical imaging anatomy. Musculoskeletal	Solt Lake City: AMIRSYS	2006	

Num	ber:50					
Atta	achment 3	Integrated cycle of studies – Subject program				
1.	Subject	MAGNETIC RESONANCE IMAGING OF THE SPINE				
2.	Code	MEDI 50				
3.	Study program	General Medicin	ne			
4.	Institution (unit, institute,	Ss. Cyril and Me	ethodius Univer	sity in Skopje, Facult	y of Medicine,	
	chair, department)	Department of Radiology				
5.	Degree of education (first,	Integrated 6-year studies				
	second, third cycle)					
6.	Academic year/semester	Year	Fourth (IV)	Semester	Seventh (VII)	
7	ECTS credits	1				
8.	Professor (when more	Prof. Violeta Va	silevska Nikod	inovska, PhD, MD		
	professors, responsible					
	professor is assigned)					
9.	Language of the study	English				

	Preconditions for	Passed example	m of Radiology.					
10.	attending the classes and		ng the final exam, the student should	l submit a seminar				
	taking the subject's exam		written form and prepare a PPT pres					
11.	Subject program goals	Aims of the	e course program (competences):					
	(competences) and study	Student sho	ould obtain basic and advanced know	vledge for				
	results:	radiologica	l diagnosis of the spine, presentation	n of the diseases of				
		the spine of	n magnetic resonance imaging and to	become familiar to				
		intervention	nal procedures of the spine.					
12.	Subject content in details		f the course program:					
	by chapters and units,	Theoretic	al course:					
	with study results for	• MF	R anatomy of the spine					
	every chapter	• Pat	hological conditions of the spine pre-	esented on MRI				
		• Co:	ngenital anomalies.					
		• Inf	lammation					
			generative diseases					
			mors					
			iuma					
		• Interventional procedures of the spine						
		Practical course:						
			nical application of MRI in diagnosi	s of the spine				
			eases					
		Clinical applications of spine basic protocols						
		Clinical applications of spine advanced protocol						
		• Interventional procedures of the spine						
		Seminar paper: Case presentation with differential diagnosis discussion						
		Case prese	entation with differential diagnosis d	liscussion				
13	Interconnection between	Related to a	all other subjects					
	subjects							
14.	Description of the	Interactive	teaching (theory), practical exercise	s, seminar paper				
	subject's study and							
	working methods in							
	details							
15.	Total available time	30 hours						
16	frame Forme of tooobing	16.1	Lagona theometical lagona	5 hours				
16.	Forms of teaching activities	16.1.	Lessons – theoretical lessons, hours	5 hours				
	ατινιμές	16.2.	Practical lessons (laboratory,	Exercises 5 hours				
		10.2.	auditory), seminars, team work:	Seminars 5 hours				
			hours	Seminars 5 nours				
		16.3.	Practice: hours					
	Other forms of activities	17.1.	Project tasks: hours					
17.	State for my or activities	17.1.	Individual tasks: hours					
- / •		17.2.	Studying at home: hours	15 hours				
10	Doquinomonto for			15 110015				
18	Requirements for	Conditiona	ents for signature					
	signature		get a signature, a student needs to at	tend theoretical				
			asses and seminars as well as to obta					
		number of		ann a mmmmulli				
	1	number of	pomo.					

			Theoretical	course 4-10 points		
				ourse 4-10 points		
19	Methods	of assessment				
17	19.1.	Tests: points				minmax. 12 - 20
	19.2.	Seminar paper/pr	oject, written	and oral presentation:		min max.
		points			Seminar paper	points 25 - 35
	19.3.	Final exam: point	ts			minmax.
					Oral exam poi	
20	Grading	criteria (points/gra	ıde)	Up to 59 points		5 (five) (F)
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
1		· · · · · · · ·	1.4	From 93 to 100 points		$\frac{10 \text{ (ten) (A)}}{10 \text{ (ten) (A)}}$
21.		of monitoring the	quality of	Students' anonymous ev		
	the teach	ing process		teachers and the associates participating in the teaching		
22.	Literature			process		
22.						
		Mandatory litera		1	1	
		Number	Author	Title	Publisher	Year
		1.	Ross JS,	Diagnostic Imaging	Solt Lake	2010
	22.1.		Brant,	Spine	City:	
	22.1.		Zawadzki,		AMIRSYS	
			Moore,			
			Crim,			
			Chen, Katzman			
		Additional literatu				
				T: 1	D 11' 1	
		Number	Author	Title	Publisher	year
		1.	Manaster	Diagnostic and	Solt Lake	2006
			BJ,	surgical imaging	City:	
			Andrews	anatomy.	AMIRSYS	
			C, Crim J,	Musculoskeletal		
	22.2		Grossman J, Miller			
	22.2.		T,			
			Petersilge			
			C,			
			Roberts			
			С,			
			Rosenberg			
			Z, Sanders			
			R.K			

Atta	achment 3	Integrated cycle of studies – Subject program			
1.	Subject	ENDOCRINE DYSREGULATION, BIOMARKERS IN CARDIAC FAILURE AND TECHNIQUES OF VISUALISATION			
2.	Code	MEDI 51			
3.	Study program	General Medicine			
4.	Institution (unit, institute, chair, department)	Ss Cyril and Methodius University in Skopje, Medical Faculty, Department of Pathophysiology and Nuclear Medicine			
5.	Degree of education (first, second, third cycle)	Integrated 6-year study			
6.	Academic year/semester	Year Third (III) Semester Sixth (VI)			
7	ECTS credits	1			
8.	Professor (when more professors, responsible professor is assigned)	Prof. Venjamin Majstorov, MD, PhD			
9.	Language of the study	English			
10.	Preconditions for attending the classes and taking the subject's exam	Exam of Pathophysiology 1, Signature of Pathophysiology 2			
11.	Subject program goals (competences) and study results:	To get introduced with the mechanisms of endocrine dysregulation and biomarkers in cardiac failure, possibilities for cardiac failure visualization and their application in practice			
12.	Subject content in details by chapters and units, with study results for every chapter	 Theoretical course Pathophysiology of endocrine disorders in cardiac failure and mechanisms of release of various biomarkers Special review on pathophysiological mechanisms of symphatetic nervous system hyperreactivity in cardiac failure Techniques of visualisation and quantification of cardiac symphatetic hyperreactivity Application of visualisation techniques in risk stratification and cardiac failure prognosis Practical lessons Discussion on disorders in cardiac failure, demonstration of some visualization techniques and their application 			
13	Interconnection between subjects				
14.	Description of the subject's study and working methods in details	Interactive teaching during lectures, writting and preparing presentation, independent study by using textbooks, computer assisted learning			
15.	Total available time frame	30 classes			
16.	Forms of teaching activities	16.1.Lessons – theoretical lessons, hours5classes			

			16.2.	Practical lessons (la auditory), seminars hours	•	10 classes	
	-		16.3.	Practice: hours			
	Other for	rms of activities	17.1.	Project tasks: hours	c .		
17.			17.2.	Individual tasks: ho			
			17.3.	Studying at home:	hours	15 classes	
18	Requiren	nents for signature	activities. Conditiona	is required to activel Il criteria for assessr get a signature, the stu	nent of knowledg	planned ge:	
			points in bo	th theoretical and pra	actical courses.		
19		of assessment					
	19.1.	Tests: points					
	19.2.	Seminar paper/pro	oject, written an	d oral presentation:		min-max 40-60	
	19.3.	Final exam: points	3		min-max		
					Written exam 25 - 35		
					Oral exam 15 - 25		
		Active participation	on: points		Theoretical	course 10 - 20	
					Practical co		
20	Grading	criteria (points/gra	de)	Up to 59 points		5 (five) (F)	
				From 60 to 68		6 (six) (E)	
				points From 69 to 76		7 (seven) (D)	
				points		/ (seven) (D)	
				From 77 to 84		8 (eight) (C)	
				points			
				From 85 to 92		9 (nine) (B)	
				points			
				From 93 to 100 points	10 (ten) (A)		
21.	Methods	of monitoring the c	uality of the	Anonymous evalua	tion by the studen	ts for the	
	teaching		Land, of the	teaching staff.			
	Literatur			· 			
		Mandatory literat		-			
		Number	Author	Title	Publisher	Year	
22.	22.1. 1.		O'Malley JP, Ziessman HA, Thrall JH.	Nuclear Medicine and Molecular Imaging: The Requisites	Elsevier	2020	
		2.	Leonard S. Lilly	Pathophysiology of Heart Disease	Wolters Kluwer	2020	

		3.				
		Additional literatur	е			
		Number	Author	Title	Publisher	year
	22.2.	1.	McPhee SJ, Ganong WF:	Pathophysiology of disease. An introduction to clinical medicine	Langee medical Books/McGraw- Hill, New York	2003
		2.				
	-	3.				

	ber:52							
Atta	achment 3			– Subject program				
1.	Subject		VIRAL ACUTE UPPER RESPIRATORY INFECTIONS					
2.	Code	MEDI 52						
3.	Study	General Med	licine					
	program							
4.	Institution	Ss Cyril and	Ss Cyril and Methodius University, Medical Faculty, Department of Infectology					
	(unit, institute,							
	chair,							
-	department)	T 16						
5.	Degree of	Integrated 6-	year study					
	education							
	(first, second, third cycle)							
6.	Academic	Year	Fourth (IV)	Semester		Seventh(VII)		
0.	year/semester	1 cai		Semester		Sevenui(VII)		
7	ECTS credits	1						
8.	Professor	Assoc. Prof.	d-r Marija Cvet	anovska				
	(when more	1						
	professors,							
	responsible							
	professor is							
	assigned)							
9.	Language of	English						
	the study							
	Preconditions	Criteria meet	t for enrollment	of the seventh semes	ter			
10	for attending							
•	the classes and							
	taking the subject's exam							
11	Subject s exam	• Vaa		- 1	1:			
11	program goals		e	nplementation of the	e 1	•		
•	(competences)			y viral infections thro	•			
	and study		· •	and etiological princi	• ·	· ·		
	results:			g of scientific efforts	from the field jet	to na viral		
		infel	ctii na respirator	ryniot sistem.				

12	Subject	Theoretical t	eaching					
	content in	• Causes of u	upper respiratory infections					
	details by	Epidemiolo	ogical characteristics					
	chapters and	• Types of u	oper respiratory syndromes					
	units, with		• Clinical characteristics of upper respiratory syndromes					
	study results		• Differential diagnosis of upper respiratory syndromes					
	for every		c approach in viral upper respiratory syndromes					
	chapter		ons-types and their treatment					
	•	Cold syndr						
			P Febrile catarrh syndrome					
			• Influenza syndrome					
		• Diagnosis,	Diagnosis, therapy and prevention of Influenza					
		• Influenza-ł	Influenza-historical facts					
		Prophylact	Prophylactic approach to upper respiratory infections					
			Seasonal influenza vaccine					
		Practical tea	Practical teaching					
		Diagnostic	Diagnostic protocol in a patient with upper respiratory syndrome					
			Virological follow-ups					
		• Diagnostic	Diagnostic tests for the detection of viral agents of upper respiratory infections					
		 Therapy of 	Therapy of upper respiratory viral infections					
		• Criteria fo	• Criteria for monitoring, detection of complications and the need for their					
		treatment						
		Criteria for	Criteria for hospitalization					
		Seminars	Seminars					
		Case proce	ssing and presentation					
13	Interconnectio							
	n between							
	subjects							
14	Description of	Interactive to	eaching during lectures and practical trainings, semina	irs				
•	the subject's							
	study and							
	working							
	methods in							
	details							
15	Total	30 hours						
•	available time							
1.6	frame	161						
16	Forms of	16.1.	Lessons – theoretical lessons, hours	5 hours				
•	teaching	16.2.	Practical lessons (laboratory, auditory), seminars,	5 hours				
	activities	16.2	team work: hours	5 hours				
		16.3.	Practice: hours					
1-	Other forms	17.1.	Project tasks: hours					
17	of activities	17.2.	Individual tasks: hours					
•		17.3.	Studying at home: hours	15 hours				
18	Requirements	Obligatory						
	for signature		et a professor's signature the students has to attend the					
		practical stu	dies, as well as seminars and to gain minimum points.					

			assessments (has to pass th infectology) The grade/sco based on the s and final exar	(colloquium in ger he previously failed and then continue ore for the entire ex- sum of the points g	the student has to pass the projected neral infectology). During the exams d Continuous assessments (colloquiu to the final exam. cam is obtained according the table of ained in all the activities, Continuous a	the students m in general grades and
19		ds of asse				
	19.1.	Tests:	points			
	19.2.		ar paper/projec resentation: poi		Seminar work* points	min-max 35-45
		Active	e participation		Tests (oral exam) * points Activity and participation ** points	min-max 15 -25 10-20
					* presence in the theoretical course 51%-60% 1 point 61%-70% 1,5 points 71%-85% 2 points 86%-100% 2,5 points	
	19.3.	Final e	exam: points			
20		ng criteria s/grade)	à	Up to 59 points		5 (five) (F)
				From 60 to 68 points		6 (six) (E)
				From 69 to 76 points		7 (seven) (D)
				From 77 to 84 points		8 (eight) (C)
				From 85 to 92 points		9 (nine) (B)
				From 93 to 100 points		10 (ten) (A)
21		y of the te	itoring the aching		lent evaluation about the subject of s the professors and assistant-professor es.	
	Litera	ture				
22		Mandat	ory literature			
•	22.1.	Numbe r	Author	Title	Publisher	Year

	1.	Jonathan Cohen, Wil liam J. Powderly Steven	Infectology Volume 1 and Volume 2	New York: Elsevier	2017
	2.				
	3.	John E. Bennett, MD Raphael Dolin, MD Martin J. Blaser, MD	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases Ninth Edition	https://t.me/MBS_MedicalBook sStore	2020
	Addition	al literature	I		
	Numbe	Author	Title	Publisher	Year
22.2.	1.	Chow AW, Benninger MS, Brook I, Brozek JL, Goldstein EJ, Hicks LA, Pankey GA, Seleznick M, Volturo G, Wald ER, File TM Jr;	Infectious Diseases Society of America. IDSA clinical practice guideline for acute bacterial rhinosinusitis in children and adults.	Clin Infect Dis. 2012 Apr;54(8):e72-e112. doi: 10.1093/cid/cir1043. Epub 2012 Mar 20. PMID: 22438350.	2012
	2.	Wong DM, Blumberg DA, Lowe LGAm	. Guidelines for the use of antibiotics in acute upper respiratory tract infections.	Fam Physician. 2006 Sep 15;74(6):956-66. PMID: 17002029.	2006
	3.	D Longo, A Fauci, DL Kasper, S Hauser, J Jameson, J Loscalzo	Harrison's Principles of INTERNAL MEDICINE (2 Vol Set) 18 edition		2011

	ber:53	1					
	achment 3			es – Subject program			
1.	Subject	SEPSIS AND S	EPTIC S	носк			
2.	Code	MEDI 53					
3.	Study program	General Medicir			-		
4.	Institution	Ss Cyril and Methodius University, Medical Faculty, Department of					
	(unit, institute,	Infectology					
	chair,						
5	department)	Interneted Care					
5.	Degree of education (first,	Integrated 6-year study					
	second, third						
	cycle)						
6.	Academic	Year	Fourth	Semester	Seventh(VII)		
0.	year/semester	1 Cai	(IV)	Semester	Seventi (VII)		
7	ECTS credits	1	(1)				
8.	Professor (when	Assoc Prof d-r	Assoc. Prof. d-r Krsto Grozdanovski				
0.	more	11050 0 . 1101. u 1	ASSOC. 1101. d-1 KISto OloZuanovski				
	professors,						
	responsible						
	professor is						
	assigned)						
9.	Language of the	English	English				
	study						
	Preconditions	Criteria meet for	r enrollme	nt of the seventh semester			
10	for attending						
10	the classes and						
•	taking the						
	subject's exam						
11	Subject	Ũ		subject program (competencies): Gain	•		
•	program goals		•	eptic shock by getting to know the im	•		
	(competences)	timely d	liagnosis a	nd initial therapy. Familiarity with the	e diagnosis of		
	and study results:	local inf	fection, an	timicrobial therapy, fluid therapy, the	use of		
	results.	vasopre	ssors, cort	icosteroids, supportive therapy, and the	neir impact on		
		*		come of patients with sepsis and sept	*		
				entific papers related to sepsis, critical			
			•	and assessment of possibilities and wa	**		
		-		bidity from sepsis in our environment	•		
12	Subject content	Theoretical teac	•	orary nom sepsis in our environment	•		
14	in details by	Evolution and c	•	nitions of sensis			
•	chapters and			ture, diagnosis and prognosis			
	units, with	Pathophysiology, e	-	une, angliono una prognosio			
	study results for	Microorganisms		epsis			
	every chapter			nd antimicrobial therapy			
	J - J			patients with sepsis			
				hrombosis, nutrition, ulcer prophylax	is and glycemic		
		control in a patie			27		
				ension in a patient with septic shock			

13	Intercon	nection	sepsis Practical tead Protocol for Monitoring a Assessment Interpretation Assessment Seminars	ching the diagnosis an and assessment of of the need and and n of biological n	and therapy that is unr d therapy of sepsis and of hemodynamic param method of fluid therap narkers and acid-base s of antimicrobial therap ttion	l septic shock leters in the sep y tatus	
10	between subjects						
14 ·	Description of the subject's study and working methods in detailsInteractive teachingduring		eachingduring le	ctures and practical tra	inings, semina	rs	
15	Total available time frame		30 hours				
16	Forms of		16.1.	Lessons – the	eoretical lessons, hours		5 hours
•	teaching		16.2.		ons (laboratory, audito	ry),	5 hours
	activities	6					5 hours
	Other fo	uma of	16.3. 17.1.	Practice: hours Project tasks: hours			
17	activities		5				
•	activities	,	17.2.Individual tasks: hours17.3.Studying at home: hours15 h			15 hours	
18	Require	ments	Obligatory criteria:				
	for signature		In order to g practical stud In order to ta assessments students has in general in The grade/scu based on the and final exam	et a professor's s dies, as well as s ke the final exan (colloquium in g to pass the previ fectology) and t ore for the entire sum of the points	signature the students h eminars and to gain m in the student has to pa- general infectology). I ously failed Continuou then continue to the fin exam is obtained accorr gained in all the activit	inimum points ss the projected During the exam is assessments hal exam. ding the table of	d continuous ms the (colloquium of grades and
19	Methods 19.1.	of assess Tests: p					
	19.1.	-		www.ittom and			min
	17.2.		r paper/project sentation: poir		Seminar work*	points	min-max 35-45
		Active	participation		Tests (oral exam) * Activity and particip	points ation ** points	min-max 15 -25 10-20

					*	_		
					* presence in the theoretical cours	e		
					51%-60% 1 point			
					61%-70% 1,5 points			
					71%-85% 2 points			
					86%- 100% 2,5 points			
	19.3.	Final ex	am: points					
20	Gradi	ng criteria	(points/grade)	Up to 59		5 (five) (F)		
		8	u o ,	points				
				From 60 to		6 (six) (E)		
				68 points		• () ()		
				From 69 to		7 (seven) (D)		
				76 points		/ (Seven) (D)		
				From 77 to		8 (eight) (C)		
				84 points		$\delta(\operatorname{ergn})(C)$		
				From 85 to		9 (nine) (B)		
				92 points		9 (iiiie) (b)		
				From 93 to		10 (4.0.) (A)		
				100 points		10 (ten) (A)		
21	Math	da of moni	towing the		tudant avaluation about the subject	of study of		
		ods of moni		Anonymous student evaluation about the subject of study as well as evaluation of the professors and assistant-professors				
•	quality of the teaching process					t-professors		
				enroned in th	e subject studies.			
	Litera	ture						
			ry literature	Γ		1		
		Number	Author	Title	Publisher	Year		
		1.	Jonathan Cohen, Willi	Infectology Volume 1	New York: Elsevier	2017		
			am J.	and				
			Powderly	Volume 2				
			Steven					
		2.	John E.	Mandell,	https://t.me/MBS_MedicalBooks	2020		
22	22.1.		Bennett,	Douglas,	Store			
22			MD	and				
•			Raphael	Bennett's				
			Dolin,	Principles				
			MD	and				
			Martin J.	Practice of				
			D1	Infectious				
			Blaser,					
			MD	Diseases				
				Diseases Ninth				
			MD	Diseases				
	22.2.	Additiona		Diseases Ninth				

1.	Alhazzani W, Evans L, Alshamsi F, Møller MH, Ostermann M, Prescott HC, et al Antonelli M, Rhodes A.	Surviving Sepsis Campaign Guidelines on the Manageme nt of Adults With Coronaviru s Disease 2019 (COVID- 19) in the ICU: First Update.	Crit Care Med. 2021 Mar 1;49(3):e219-e234. doi: 10.1097/CCM.0000000000048 99. PMID: 33555780.	2021
2.	Evans L, Rhodes A, Alhazzani W, Antonelli M, Coopersmith CM, et al Nunnally M, Oczkowski S, Osborn T, Papathanass oglou E, Perner A, Puskarich M, Roberts J, Schweickert W, Seckel M, Sevransky J, Sprung CL, Welte T, Zimmerman J, Levy M.	. Surviving Sepsis Campaign: Internationa 1 Guidelines for Manageme nt of Sepsis and Septic Shock 2021	Crit Care Med. 2021 Nov 1;49(11):e1063-e1143. doi: 10.1097/CCM.00000000000053 37. PMID: 34605781.	2021
3.	D Longo, A Fauci, DL Kasper, S Hauser, J Jameson, J Loscalzo	Harrison's Principles of INTERNA L MEDICIN E (2 Vol Set) 18 edition		2011

Numb				• /			
	chment 3	Integrated cycle of					
1.	Subject	MINIMALLY INVASIVE SURGERY					
2.	Code	MEDI 54					
3.	Study program	General Medicine	4	· ~1 · 1			
4.	Institution (unit, institute, chair, department)	Ss. Cyril and Metho Department of Surg		y in Skopje, Facul	ty of Medicine,		
5.	Degree of education (first, second, third cycle)	Integrated 6-year st	Integrated 6-year study				
6.	Academic year/semester	Year	Fifth (V), sixth (VI)	Semester	Tenth (X), Eleventh (XI), Twelfth (XII)		
7	ECTS credits	1	• • •				
8.	Professor (when more professors, responsible professor is assigned)	Associate Prof. Svetozar Antovikj, PhD, MD					
9.	Language of the study	English					
10.	Preconditions for attending the classes and taking the subject's exam	Passed exam Surgery					
11.	Subject program goals (competences) and study results:	To become familiar with the basic principles of minimally invasive surgery.					
12.	Subject content in	Theoretical course	:				
	details by chapters and	To inroduced the students with:					
	units, with study results	Basic equipment for minimaly invasive surgery					
	for every chapter	Phisiology of pneumoperitoneum					
		Basic surgical procedures in laparoscopy					
		Benefits and pittfols of minimal invasive surgey					
		Practical course: working in small operation theatre one day surgery unde supervizor					
13	Interconnection between subjects	Related to all subjects in the study program					
14.	Description of the subject's study and working methods in details	Interactive teaching, lectures, practical laboratory lessons, project assignments, independent assignments, home study					
15.	Total available time frame	30 hours					
16.	Forms of teaching activities	16.1.	Lessons – theo hours	oretical lessons,	5		

			16.2.		Practical lessons auditory), semina work: hours	rs, team		
			16.3.		Practice: hours		10.	
	Other form	ns of	17.1.		Project tasks: hou	irs	5	
17.	activities		17.2.		Individual tasks: hours		/	
			17.3.		Studying at home: hours		/	
18	Requirem	ents for	In ore	rder to get a signature, the student needs to attend the theoretical and				
	signature	-	pract	ical classes.				
19		of assessment						
	19.1.	Tests: points						
	19.2. Seminar paper/project, written and presentation: points			loral	Students are assigned to do a seminar work			
	19.3.	Final exam: p	oints					
20	Grading c	riteria (points/g	rade)		Up to 59 points	5 (five) (F)		
_	Grading enterna (points, grade)			From 60 to 68 points		6 (six) (E)		
				From 69 to 76 points		7 (seven) (D)		
				Fro	From 77 to 84 points		8 (eight) (C)	
				m 85 to 92 points		9 (nine) (B)		
					n 93 to 100 points		10 (ten) (A)	
21.	teaching p		e quali	ty of the	Evaluation two w	zays		
	Literature							
	Mandatory literature							
	22.1.	Number	Author		Title	Publisher	Year	
		1.	IImet		Atlas of	Chicago:	2013	
		1.	D,	er J, Spight	Minimally	Chicago: McGraw-	2015	
				one, Fairman	Invasive	Hill		
			J		Surgical	Professional		
22.			_		Operations 1st			
					Edition			
		Additional lite	Additional literature					
	22.2.	Number		Author	Title	Publisher	year	
		1.		nsend CM, champ D.	Sabiston textbook of surgery	New York: Elsevier	2021	

Numl Atta	achment 3	Integrated cycle of studies – Subject program					
1.	Subject	EPILEPTIC SYNDROMES					
2.	Code	MEDI 55					
3.	Study program	General Medicine					
4.	Institution (unit, institute,	Ss. Cyril and Methodius University in Skopje, Faculty of					
	chair, department)	Medicine, Department of Neurology					
5.	Degree of education (first, second, third cycle)	Integrated 6-year studies					
6.	Academic year/semester	Year IV Semester VIII					
7	ECTS credits	1					
8.	Professor (when more professors, responsible professor is assigned)	Prof d-r Gordana Kiteva-Trenchevska					
9.	Language of the study	English					
	Preconditions for attending	Signature from Neurology					
10.	the classes and taking the subject's exam	To enter the exam, seminar work (writing text and presenting) is needed					
11.	Subject program goals (competences) and study results:	 The students will achieve competences to classify epileptic seizures, epilepsies and epileptic syndromes The students will achieve competences to diagnose different epileptic syndromes (idiopathic, symptomatic, pharmacoresponsive and pharmakoresistant) The students will achieve competences to diagnose specific comorbidities of different epileptic syndromes The students will achieve competences to select appropriate treatment for different epileptic syndromes and their comorbidities 					
12.	Subject content in details by chapters and units, with study results for every chapter	 ILAE classification of seizures, epilepsies and epileptic syndromes Idiopathic epileptic syndromes Symptomatic epileptic syndromes Epileptic developmental encephalopathies Epileptic syndromes in different age groups (newborns, infants, toddlers, children and adolescents, adults) EEG in diagnosis of epileptic syndromes Neuroimaging in epileptic syndromes Genetics in epileptic syndromes Cognitive functioning in epileptic syndromes Pharmacological treatment of epileptic syndromes Non-pharmacological treatment of epileptic syndromes Therapeutic drug monitoring of antiseizure drugs 					

13	Interconne subjects	ection between	Neurology, epileptology, electroencephalography, neuroimaging, neuropsychology, cognition, genetics, pharmacological and non- pharmacological treatment					
14.		on of the subject's working methods in	Practical course: syndromes, differ options; problem	e: Lectures, presentat small group work wir rent diagnostic metho solving tasks in diffe hual and group work p s exercises	th different epil ds, different the rrent epileptic sy	eptic erapeutic yndromes		
15.	Total avai	lable time frame						
16.	Forms of	teaching activities	16.1.	Lessons – theoretical lessons, hours				
			16.2.	Practical lessons (laboratory, auditory), seminars, team work: hours Practice: hours				
	Other for	ns of activities	10.5.	Project tasks: hours		5		
17.		lis of activities	17.1.	Individual tasks: hours		5		
17.			17.2.	Studying at home: hours		5		
18	Requirem	ents for signature		ion in all planned activities				
10			(theoretical course, practical course, seminars, presentation skills exercising)Final mark is formed by summarizing the points of all planned activities					
19		of assessment				15.25		
	19.1.	Tests: points				15-25		
	19.2.	Seminar paper/proje points	ect, written and ora	l presentation:		25-35		
	19.3.	Final exam: points				20-40		
20	Grading c	riteria (points/grade)		Up to 59 points		5 (five) (F)		
				From 60 to 68		6 (six) (E)		
				points				
				From 69 to 76		7 (seven) (D)		
				From 77 to 84		8 (eight) (C)		
				points		$\delta(\text{eight})(C)$		
				From 85 to 92	9 (nine) (B			
				points	y (mile) (B			
				From 93 to 100 points		10 (ten) (A)		
21.	Methods of monitoring the quality of the teaching processAnonymous student's evaluation							
	Literature							
22.		Mandatory literature						
	22.1.	Number	Author	Title	Publisher	Year		

	1.	Panayiotopoulos C.	A clinical guide to epileptic syndromes and their treatment	London: John Libbey & Co. Ltd, Springer Healthcare Ltd	2002
	Additional literature				
	Number	Author	Title	Publisher	year
22.2.	1.	Arielle Crespel, Philippe Gelisse	Atlas of EEG	John Libbey	2005
	2.	www.epileptic syndromes			